Innovation Through Simplicity

EP EQUIPMENT CO.,LTD

V2508.03

www.ep-equipment.com

Email: info@ep-ep.com

EP Industrial Park, Xiaquan Village, Lingfeng Street, Anji County, Huzhou City, Zhejiang Province

Let's grow together

EFL403/453/503-HV
EFL503-HV-6/553-HV-6

High Capacity Electric Counterbalanced Forklift 4-5.5T

LI-ION TECHNOLOGY



WHY HIGH VOLTAGE?

Introducing high-voltage electric forklifts with a complete lineup from 4 to 25-ton load capacities, marking the era of high-voltage high-capacity Li-ion trucks.
This groundbreaking development adopts world-leading high-voltage Lithium-ion power combined with advanced PMSM (Permanent Magnet Synchronous Motor) technology. These high-capacity forklifts ensure triple guarantees of high performance, long running time and safety while aligning with the current trend of green and sustainable development.



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.

45%

Faster lifting speed demonstrated by the high-voltage models.

45%

Improvement in gradeability when laden for high voltage models.

100%

Improvement in gradeability when unladen.

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. High-voltage systems consume less energy and provide longer battery running time comparing low-voltage systems. 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. This means that high-capacity trucks can work continuously for prolonged hours at lower costs.

4000

cycles for high-voltage Li-ion batteries

Equipped with fast charging capabilities, high-capacity trucks offer a remarkable charging experience. 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

Lithium batteries present considerably lower charging costs than fuel expenses. The integration of high-voltage and PMSM technology achieves up to 15% greater electricity savings versus traditional lithium and AC technology configurations. This significantly reduces long-term energy consumption costs.



1C
Charging

1 hour
Fully charged

15%
Energy savings

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 water cooling systems provide superior cooling performance, preventing the truck from overheating even under the most demanding conditions or in the heat of summer. Water's higher heat transfer capacity compared to air allows it to dissipate heat more efficiently from critical components like the motor and battery. This efficient heat dissipation helps maintain the battery temperature around 30~35°C, protecting these vital components from overheating and potential damage or failure. Consequently, this enhances the overall reliability and longevity of the high-capacity trucks.

Additionally, water cooling systems typically operate with less noise compared to air cooling systems that rely on high-speed fans. This noise reduction is particularly beneficial in applications where a quieter operation is desirable, such as in urban areas or indoor facilities.

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. By effectively managing the temperature of the hydraulics system, the oil cooling system contributes to the smooth and reliable operation of the truck's hydraulic functions.



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

Both high-voltage lithium batteries and PMSM employ multiple protective measures to ensure safe operations including overcharge protection, over-temperature monitoring, short-circuit protection, etc. minimizing the risk of potential hazards and maximizing operational safety.



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. With controlled deceleration, the fork movement is smooth with no abrupt stops that could damage the load or cause operator discomfort. This feature enhances operational safety and prolongs the lifespan of the mast components.



Low maintenance: Longer battery life span

Operating at a higher voltage allows the battery to be designed with fewer individual cells. With fewer components and a simpler design, the risk of battery failure is lowered.

Thanks to advanced BMS (Battery Management System) which helps to regulate and monitor high-voltage battery, these batteries tend to have a longer life than low-voltage lithium batteries, reducing the need of battery replacement.

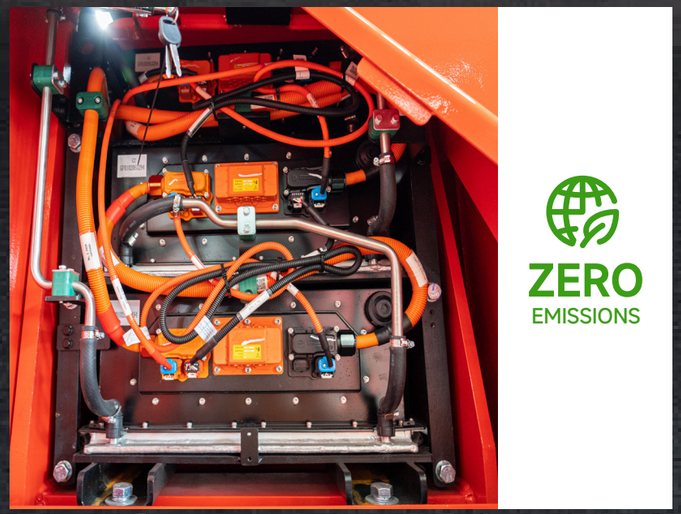
The brushless, simple rotor design of PMSM eliminates mechanical wear from brushes and commutators. This durable, low-friction construction requires minimal periodic maintenance, reducing associated labor costs and downtime.



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°C~40°C 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.

The dual front wheels is a standard configuration on several models offering a wider base of support, which greatly improves the forklift's stability. Considering the capacity loads of the high-capacity trucks, the weight of the load is more evenly distributed across a larger surface area. The increased ground contact area provided by the dual wheels enhances traction. This is particularly beneficial in environments where the floor may be slippery or uneven while operating outdoors, ensuring that the forklift can maintain a firm grip and operate safely. This not only helps in maintaining balance but also minimizes the stress on individual tires, extending the lifespan of the tires.



Great support for clients' investment: After-sales Service

Remote/Online Services:

Telematics technology enables remote monitoring of battery conditions, performance status, and other critical parameters for forklifts. Additionally, production, technical, and after-sales experts are available around the clock to provide prompt and comprehensive solutions for any maintenance issues through virtual support.

Physical Services:

Comprehensive manuals and supporting documents are provided for all forklift models. In case of breakdowns or replacements, spare parts are swiftly delivered to the clients' locations by global subsidiaries or domestic inventory, minimizing operational disruptions caused by equipment downtime.

COMPACT AND MIGHTY

EFL403-553 HV offer more compact sizes while delivering enhanced performance over low-voltage forklift models. Their single front wheel design allows maneuverability in tighter spaces, making them ideal for industries like steel manufacturing, automotive, and heavy machinery production where space can be limited. With high-voltage Li-ion batteries, EFL403-553 can endure operating hours up to 6 hours. The 20-25% gradeability enables them to handle rough terrain and ramps with ease, making them suitable for outdoor applications with ease.











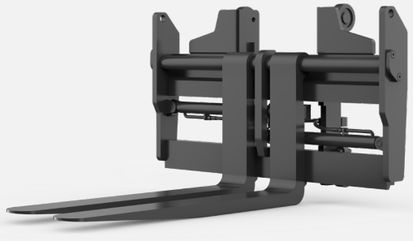
No detail overlooked in the configurations

Mast



Lifting and lowering Buffer
Max Lifting height up to 7000mm*

Attachments



Fork positioner with pin type forks*
This versatile combination allows handling different load sizes/positions

Operating Compartment



Fingertips*



Rear grab handle with horn



AC and heater*



Reversing radar and camera*



Reversing display*



Battery



309V173Ah LFP battery
Battery heating when charging

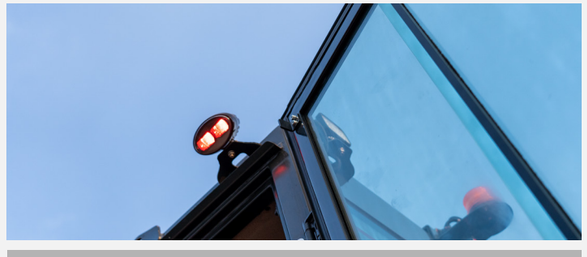
Lights



Front working lights



Strobe warning light



Area warning light*

The configurations marked with an asterisk (*) are optional.

High Capacity Electric Counterbalanced Forklift 4-5T

EFL403/453/503-HV

Distinguishing mark	1.1	Manufacturer			EP	EP	EP
	1.2	Model designation			EFL403-HV	EFL453-HV	EFL503-HV
	1.3	Drive			Electric	Electric	Electric
	1.4	Operator type			Seated	Seated	Seated
	1.5	Load capacity	Q	kg	4000	4500	5000
	1.6	Load center distance	c	mm	500	500	500
	1.8	Load distance，centre of drive axle to fork	x	mm	545	545	550
	1.9	Wheelbase	y	mm	2000	2000	2000
Service weight	2.1	Service weight		kg	6450	6900	7350
	2.2	Axle loading, laden front/rear		kg	9442/1008	10267/1133	11064/1286
	2.3	Axle loading, unladen front/rear		kg	3352/3098	3415/3485	3439/3911
Tyres/chassis	3.1	Tyre type			pneumatic	pneumatic	pneumatic
	3.2	Tyre size, front			8.25-15-14PR	300-15-20PR	300-15-20PR
	3.3	Tyre size, rear			7.00-12-12PR	7.00-12-12PR	7.00-12-12PR
	3.5	Wheels, number front/rear (x=drive wheels)		mm	2x/ 2	2x/ 2	2x/ 2
	3.6	Tread width, front	b10	mm	1176	1176	1176
	3.7	Tread width, rear	b11	mm	1190	1190	1190
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β	°	6/12	6/12	6/12
	4.2	Retracted mast height	h1	mm	2250	2250	2250
	4.3	Free lift	h2	mm	150	150	155
	4.4	Lift height	h3	mm	3000	3000	3000
	4.5	Height, mast extended	h4	mm	4177/3835	4177/3835	4177/3835
	4.7	Height of overhead guard (cabin)	h6	mm	2400	2400	2400
	4.8	Seat height/standing height	h7	mm	1290	1290	1290
	4.12	Tow coupling height	h10	mm	640	640	640
	4.19	Overall length	l1	mm	4125	4125	4130
	4.20	Length to face of forks	l2	mm	3055	3055	3060
	4.21	Overall width	b1/b2	mm	1495	1495	1495
	4.22	Fork dimensions	s/e/l	mm	50×150×1070	50×150×1070	55×150×1070
	4.23	A,B Fork carriage class/type A, B			3A	3A	3A
	4.24	Fork carriage width	b3	mm	1380	1380	1380
	4.31	Ground clearance, laden, below mast	m1	mm	150	150	150
	4.32	Ground clearance, center of wheelbase	m2	mm	180	180	180
	4.34.1	Aisle width for pallets 1000×1200 crossways	Ast	mm	4495	4495	4550
	4.34.2	Aisle width for pallets 800×1200 lengthways	Ast	mm	4495	4495	4550
	4.35	Turning radius	Wa	mm	2680	2680	2730
Performance data	5.1	Travel speed, laden/unladen		km/ h	24/25	24/25	24/25
	5.2	Lifting speed, laden/unladen		m/s	0.46/0.53	0.43/0.53	0.38/0.48
	5.3	Lowering speed, laden/unladen		m/s	0.41/0.42	0.41/0.42	0.41/0.42
	5.5	Drawbar pull, laden/unladen		N	/	/	/
	5.6	Max. drawbar pull, laden/unladen		N	/	/	/
	5.8	Max. gradeability, laden/unladen		%	25/30	25/28	24/26
	5.10	Service brake			Hydraulic	Hydraulic	Hydraulic
	5.11	Parking brake			Mechanical	Mechanical	Mechanical
Electric-engine	6.1	Drive motor rating S2 60 min		kW	30	30	30
	6.2	Lift motor rating at S3 15%		kW	27.8	27.8	27.8
	6.4	Battery voltage/nominal capacity		V/Ah	309V/173AH	309V/173AH	309V/173AH
	6.5	Battery weight		kg	473	473	473
Addition data	8.1	Type of drive control			PMSM	PMSM	PMSM
	10.5	Steering design			Hydraulic	Hydraulic	Hydraulic
	10.7	Sound pressure level at the driver's ear		dB(A)	/	/	/

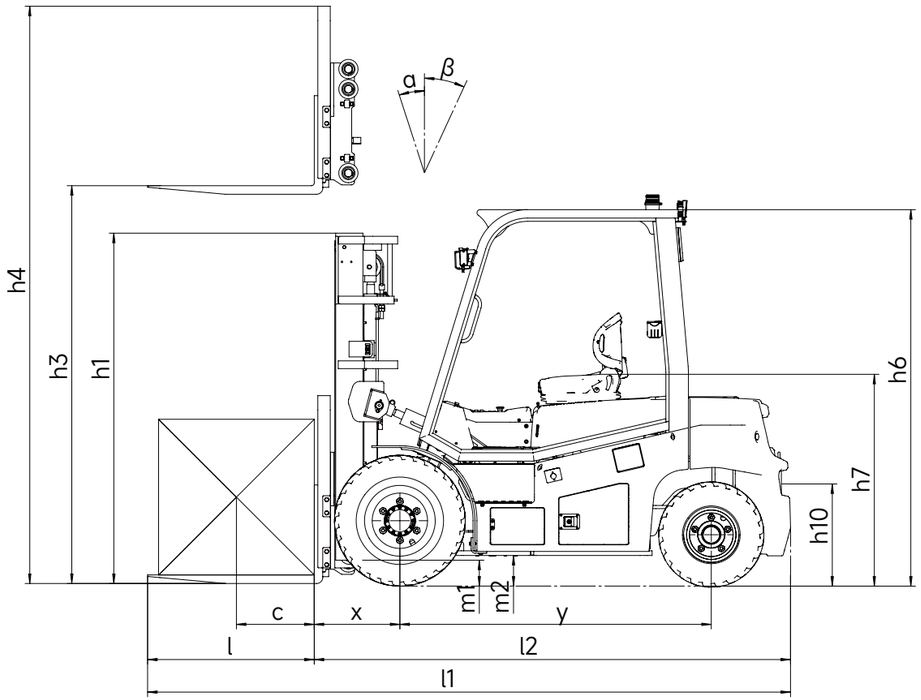
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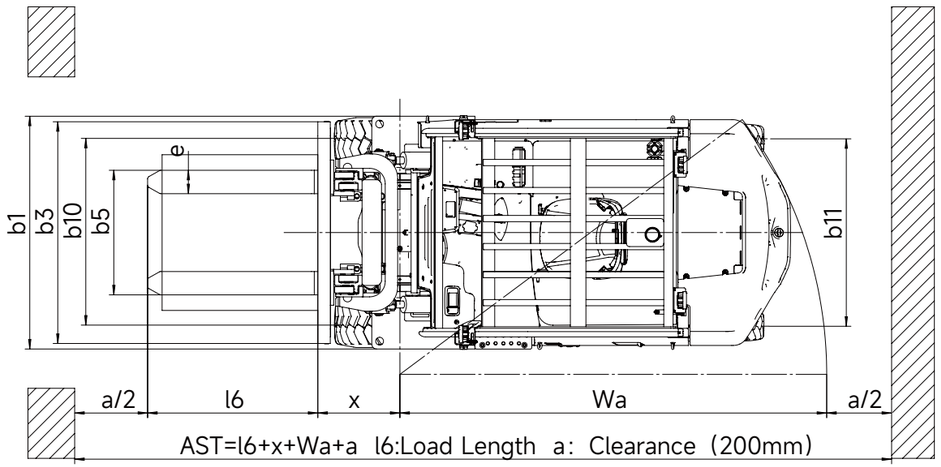
High Capacity Electric Counterbalanced Forklift 5-5.5T

EFL503-HV-6/553-HV-6

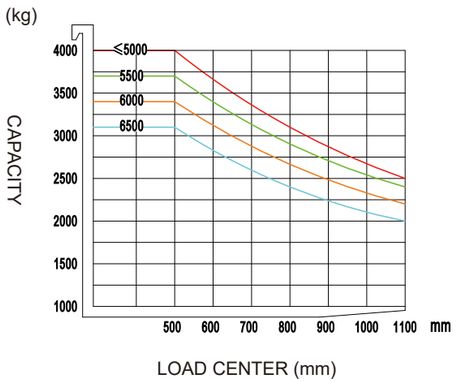
Distinguishing mark	1.1	Manufacturer			EP	EP
	1.2	Model designation			EFL503-HV-6	EFL553-HV-6
	1.3	Drive			Electric	Electric
	1.4	Operator type			Seated	Seated
	1.5	Load capacity	Q	kg	5000	5500
	1.6	Load center distance	c	mm	600	600
	1.8	Load distance，centre of drive axle to fork	x	mm	555	555
	1.9	Wheelbase	y	mm	2000	2000
Service weight	2.1	Service weight		kg	7600	8150
	2.2	Axle loading, laden front/rear		kg	11195/1405	12111/1539
	2.3	Axle loading, unladen front/rear		kg	3308/4292	3435/4715
Tyres/chassis	3.1	Tyre type			pneumatic	pneumatic
	3.2	Tyre size, front			300-15-20PR	300-15-20PR
	3.3	Tyre size, rear			7.00-12-14PR	7.00-12-14PR
	3.5	Wheels, number front/rear (x=drive wheels)		mm	2x/ 2	2x/ 2
	3.6	Tread width, front	b10	mm	1176	1176
	3.7	Tread width, rear	b11	mm	1190	1190
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β	°	6/12	6/12
	4.2	Retracted mast height	h1	mm	2400	2400
	4.3	Free lift	h2	mm	160	160
	4.4	Lift height	h3	mm	3000	3000
	4.5	Height, mast extended	h4	mm	4361/3996	4361/3996
	4.7	Height of overhead guard (cabin)	h6	mm	2400	2400
	4.8	Seat height/standing height	h7	mm	1290	1290
	4.12	Tow coupling height	h10	mm	640	640
	4.19	Overall length	l1	mm	4370	4370
	4.20	Length to face of forks	l2	mm	3150	3150
	4.21	Overall width	b1/b2	mm	1495	1495
	4.22	Fork dimensions	s/e/l	mm	60×150×1220	60×150×1220
	4.23	A,B Fork carriage class/type A, B			4A	4A
	4.24	Fork carriage width	b3	mm	1380	1380
	4.31	Ground clearance, laden, below mast	m1	mm	150	150
	4.32	Ground clearance, center of wheelbase	m2	mm	180	180
	4.34.1	Aisle width for pallets 1000×1200 crossways	Ast	mm	4705	4705
	4.34.2	Aisle width for pallets 800×1200 lengthways	Ast	mm	4705	4705
	4.35	Turning radius	Wa	mm	2730	2730
Performance data	5.1	Travel speed, laden/unladen		km/ h	24/25	24/25
	5.2	Lifting speed, laden/unladen		m/s	0.38/0.48	0.36/0.48
	5.3	Lowering speed, laden/unladen		m/s	0.41/0.42	0.41/0.42
	5.5	Drawbar pull, laden/unladen		N	/	/
	5.6	Max. drawbar pull, laden/unladen		N	/	/
	5.8	Max. gradeability, laden/unladen		%	23/25	20/25
	5.10	Service brake			Hydraulic	Hydraulic
	5.11	Parking brake			Mechanical	Mechanical
Electric-engine	6.1	Drive motor rating S2 60 min		kW	30	30
	6.2	Lift motor rating at S3 15%		kW	27.8	27.8
	6.4	Battery voltage/nominal capacity		V/Ah	309V/173AH	309V/173AH
	6.5	Battery weight		kg	473	473
Addition data	8.1	Type of drive control			PMSM	PMSM
	10.5	Steering design			Hydraulic	Hydraulic
	10.7	Sound pressure level at the driver's ear		dB(A)	/	/

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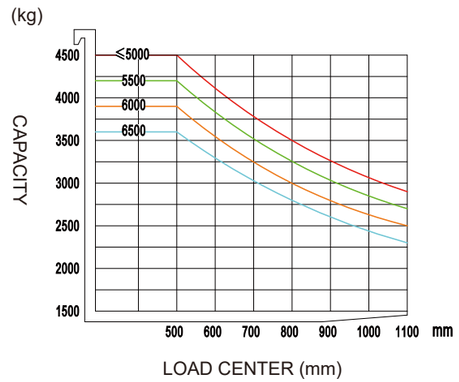


EFL403-HV
RATED CAPACITIES AND LOAD CENTERES GRAPH



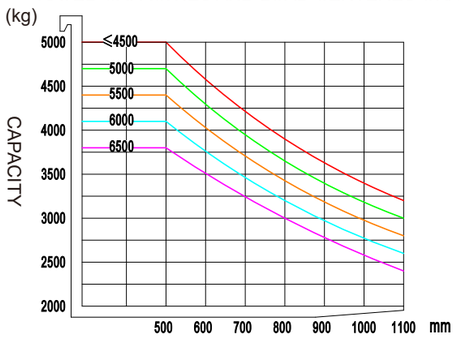
LOAD CENTER (mm)

EFL453-HV
RATED CAPACITIES AND LOAD CENTERES GRAPH



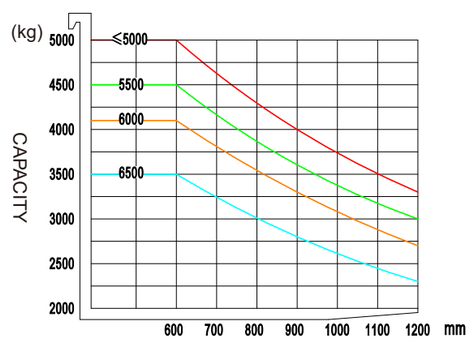
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EFL503-HV
RATED CAPACITIES AND LOAD CENTERES GRAPH



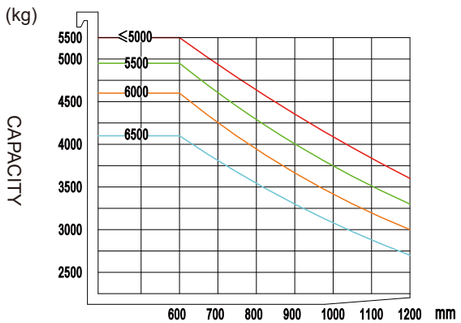
LOAD CENTER (mm)

EFL503-HV-6
RATED CAPACITIES AND LOAD CENTERES GRAPH



LOAD CENTER (mm)

EFL553-HV-6
RATED CAPACITIES AND LOAD CENTERES GRAPH



LOAD CENTER (mm)

Mast Option

EFL403-HV/EFL453-HV

Mast types	Lift height (h3)	Height, Mast			Height,Free lift(h2)	
		Height, mast lowered(h1)	Height, mast extended(h4)		No backrest	With backrest
			No backrest	With backrest		
	mm	mm	mm	mm	mm	mm
2-Standard Mast	3000	2250	3835	4177	150	150
	3500	2500	4335	4677	150	150
	4000	2750	4835	5177	150	150
	4500	3050	5385	5677	150	150
	5000	3300	5885	6177	150	150
	5500	3600	6435	6677	150	150
	6000	3850	6935	7177	150	150
	6500	4150	7485	7677	150	150
2-Free Mast	3000	2250	—	4244	860	1364
	3500	2500	—	4744	1110	1614
	4000	2750	—	5244	—	—
3-Free Mast	4500	2247	5242	5677	1525	1091
	5000	2413	5742	6177	1692	1258
	5500	2580	6242	6677	1859	1425
	6000	2797	6792	7177	2026	1642
	6500	2963	7292	7677	2193	1809
	7000	3130	7792	8177	2360	1976

EFL503-HV

Mast types	Lift height (h3)	Height, Mast			Height,Free lift(h2)	
		Height, mast lowered(h1)	Height, mast extended(h4)		No backrest	With backrest
			No backrest	With backrest		
	mm	mm	mm	mm	mm	mm
2-Standard Mast	3000	2250	3835	4177	155	155
	3500	2500	4335	4677	155	155
	4000	2750	4835	5177	155	155
	4500	3050	5385	5677	155	155
	5000	3300	5885	6177	155	155
	5500	3600	6435	6677	155	155
	6000	3850	6935	7177	155	155
	6500	4150	7485	7677	155	155
2-Free Mast(Tentative)	3000	2250	—	4244	860	1364
	3500	2500	—	4744	1110	1614
	4000	2750	—	5244	—	—
3-Free Mast	4500	2247	5242	5677	1530	1096
	5000	2413	5742	6177	1697	1263
	5500	2580	6242	6677	1864	1430
	6000	2797	6792	7177	2031	1647
	6500	2963	7292	7677	2198	1814
	7000	3130	7792	8177	2365	1981

EFL503-HV-6/EFL553-HV-6

Mast types	Lift height (h3)	Height, Mast			Height,Free lift(h2)	
		Height, mast lowered(h1)	Height, mast extended(h4)		No backrest	With backrest
			No backrest	With backrest		
	mm	mm	mm	mm	mm	mm
2-Standard Mast	3000	2400	3996	4361	160	160
	3500	2650	4496	4861	160	160
	4000	2900	4996	5361	160	160
	4500	3200	5546	5861	160	160
	5000	3450	6046	6361	160	160
	5500	3750	6596	6861	160	160
	6000	4000	7096	7361	160	160
	6500	4300	7646	7861	160	160
2-Free Mast(Tentative)	3000	2250	—	4244	860	1364
	3500	2500	—	4744	1110	1614
	4000	2750	—	5244	—	—
3-Free Mast	4500	2397	5370	5861	1557	1066
	5000	2563	5870	6361	1724	1233
	5500	2730	6370	6861	1891	1400
	6000	2947	6920	7361	2058	1617
	6500	3113	7420	7861	2225	1784
	7000	3280	7920	8361	2392	1951

Standard Configuration

- Hook-on forks
- 1070mm forks (500mm LC) /1220mm forks (600mm LC)
- 1424mm fork carriage width
- Fork backrest with hook on type fork
- 309V173Ah LFP battery
- Pneumatic tyres
- Buzzer

Heating system for lithium battery charging

- Telematics
- Mechanical lever
- Rear armrest horn
- Upgrade mechanical suspension seat with armrest + headrest + safety belt switch
- OPS system
- Standard overhead guard
- Mast lifting and lowering buffer
- Lighting package: LED front working light, turn signal light, market light, LED rear working light, strobe warning light

Options

○ Customized fork length/non-standard accessories

○ Customized fork carriage width

○ Customized fork backrest

○ Attachments:

Hook-on sideshifter

Hook-on fork positioner with sideshifter

Fork positioner: Pin-type forks

○ Chargers

20kw (3 phase AC 370V-460V, 50-60HZ, 32A plug)

40kw (3 phase AC 370V-460V, 50-60HZ, 63A plug)

○ Fingertips

○ Grammer MSG65-531 mechanical suspension seat with armrest + safety belt switch

○ Solid tyres / non-marking tyres

○ Reversing radar/reversing camera/reversing radar and camera

○ Lights

LED working lights on mast

Rotating warning light / rotating buzzer warning light

Rear/rear and front blue lamp

Front fog light

Customized area warning light

○ Cigarette lighter socket 12V5A

○ USB interface 24V

○ Turn speed control

○ Adjustable overspeed alarm

○ Cabin options:

Basic half-cabin: front windshield, front wiper (including sprinkler), roof

Upgrade half-cabin: basic half-cabin, rear windshield, rear wiper

Basic full cabin: upgrade half-cabin, left and right doors, defogging device

Upgrade full cabin: basic full cabin, air conditioner

Innovation Through Simplicity

EP EQUIPMENT CO.,LTD

V2507.02

www.ep-equipment.com

Email: info@ep-ep.com

EP Industrial Park, Xiaquan Village, Lingfeng Street, Anji County, Huzhou City, Zhejiang Province

Let's grow together

EFL503/553-HVD
EFL603-HV/703-HV/753-HV

High Capacity Electric Counterbalanced Forklift 5-7.5T

LI-ION TECHNOLOGY



WHY HIGH VOLTAGE?

Introducing high-voltage electric forklifts with a complete lineup from 4 to 25-ton load capacities, marking the era of high-voltage high-capacity Li-ion trucks.
This groundbreaking development adopts world-leading high-voltage Lithium-ion power combined with advanced PMSM (Permanent Magnet Synchronous Motor) technology. These high-capacity forklifts ensure triple guarantees of high performance, long running time and safety while aligning with the current trend of green and sustainable development.



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.

45%

Faster lifting speed demonstrated by the high-voltage models.

45%

Improvement in gradeability when laden for high voltage models.

100%

Improvement in gradeability when unladen.

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. High-voltage systems consume less energy and provide longer battery running time comparing low-voltage systems. 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. This means that high-capacity trucks can work continuously for prolonged hours at lower costs.

4000

cycles for high-voltage Li-ion batteries

Equipped with fast charging capabilities, high-capacity trucks offer a remarkable charging experience. 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

Lithium batteries present considerably lower charging costs than fuel expenses. The integration of high-voltage and PMSM technology achieves up to 15% greater electricity savings versus traditional lithium and AC technology configurations. This significantly reduces long-term energy consumption costs.



1C
Charging

1 hour
Fully charged

15%
Energy savings

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 water cooling systems provide superior cooling performance, preventing the truck from overheating even under the most demanding conditions or in the heat of summer. Water's higher heat transfer capacity compared to air allows it to dissipate heat more efficiently from critical components like the motor and battery. This efficient heat dissipation helps maintain the battery temperature around 30~35°C, protecting these vital components from overheating and potential damage or failure. Consequently, this enhances the overall reliability and longevity of the high-capacity trucks.

Additionally, water cooling systems typically operate with less noise compared to air cooling systems that rely on high-speed fans. This noise reduction is particularly beneficial in applications where a quieter operation is desirable, such as in urban areas or indoor facilities.

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. By effectively managing the temperature of the hydraulics system, the oil cooling system contributes to the smooth and reliable operation of the truck's hydraulic functions.



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

Both high-voltage lithium batteries and PMSM employ multiple protective measures to ensure safe operations including overcharge protection, over-temperature monitoring, short-circuit protection, etc. minimizing the risk of potential hazards and maximizing operational safety.



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. With controlled deceleration, the fork movement is smooth with no abrupt stops that could damage the load or cause operator discomfort. This feature enhances operational safety and prolongs the lifespan of the mast components.



Low maintenance: Longer battery life span

Operating at a higher voltage allows the battery to be designed with fewer individual cells. With fewer components and a simpler design, the risk of battery failure is lowered.

Thanks to advanced BMS (Battery Management System) which helps to regulate and monitor high-voltage battery, these batteries tend to have a longer life than low-voltage lithium batteries, reducing the need of battery replacement.

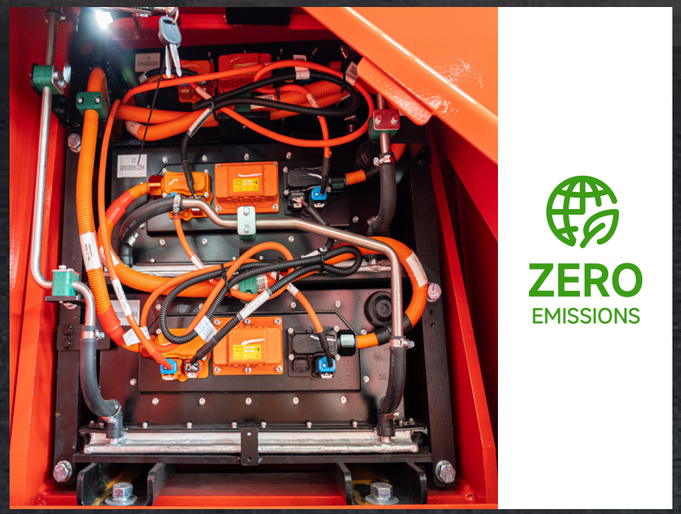
The brushless, simple rotor design of PMSM eliminates mechanical wear from brushes and commutators. This durable, low-friction construction requires minimal periodic maintenance, reducing associated labor costs and downtime.



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°C~40°C 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.

The dual front wheels is a standard configuration on several models offering a wider base of support, which greatly improves the forklift's stability. Considering the capacity loads of the high-capacity trucks, the weight of the load is more evenly distributed across a larger surface area. The increased ground contact area provided by the dual wheels enhances traction. This is particularly beneficial in environments where the floor may be slippery or uneven while operating outdoors, ensuring that the forklift can maintain a firm grip and operate safely. This not only helps in maintaining balance but also minimizes the stress on individual tires, extending the lifespan of the tires.



Great support for clients' investment: After-sales Service

Remote/Online Services:

Telematics technology enables remote monitoring of battery conditions, performance status, and other critical parameters for forklifts. Additionally, production, technical, and after-sales experts are available around the clock to provide prompt and comprehensive solutions for any maintenance issues through virtual support.

Physical Services:

Comprehensive manuals and supporting documents are provided for all forklift models. In case of breakdowns or replacements, spare parts are swiftly delivered to the clients' locations by global subsidiaries or domestic inventory, minimizing operational disruptions caused by equipment downtime.

OVERCOMING THE MOST DEMANDING APPLICATIONS

EFL503-703 HV cater to industries dealing with extremely heavy loads, such as construction, metalworking, and more. The dual front wheels provide enhanced stability and traction when carrying massive weights. The 30% gradeability, combined with a high ground clearance, makes them adept at navigating inclines, uneven surfaces, and challenging terrain commonly found in rugged applications. With a maximum travel speed of 30-34 km/h, these forklifts can swiftly handle operations even in extreme conditions, such as in front of incinerators or in high-heat areas. Additionally, their fast lifting speed ensures efficient material handling, further enhancing productivity in demanding industrial settings.









Finely tuned down to the smallest detail

Mast



Lifting and lowering Buffer
Max Lifting height up to 7000mm*

Attachments



Fork positioner with pin type forks*
This versatile combination allows handling different load sizes/positions

Operating Compartment



Cabin with AC and heater*



Fingertips*



Rear grab handle with horn



Reversing radar and camera*



Reversing display*



Battery



309V228Ah LFP battery
Battery heating when charging

Lights



Front working lights



Strobe warning light



Area warning light*

The configurations marked with an asterisk (*) are optional.

High Capacity Electric Counterbalanced Forklift 5-5.5T

EFL503/553-HVD

Distinguishing mark	1.1	Manufacturer			EP	EP
	1.2	Model designation			EFL503-HVD-6	EFL553-HVD-6
	1.3	Drive			Electric	Electric
	1.4	Operator type			Seated	Seated
	1.5	Load capacity	Q	kg	5000	5500
	1.6	Load center distance	c	mm	600	600
	1.8	Load distance，centre of drive axle to fork	x	mm	603.5	603.5
	1.9	Wheelbase	y	mm	2300	2300
Service weight	2.1	Service weight		kg	8550	8950
	2.2	Axle loading, laden front/rear		kg	12260/1290	13000/1450
	2.3	Axle loading, unladen front/rear		kg	4650/3900	4615/4335
Tyres/chassis	3.1	Tyre type			pneumatic	pneumatic
	3.2	Tyre size, front			8.25-15-14PR	8.25-15-14PR
	3.3	Tyre size, rear			8.25-15-14PR	8.25-15-14PR
	3.5	Wheels, number front/rear (x=drive wheels)		mm	4x/2	4x/2
	3.6	Tread width, front	b10	mm	1498	1498
	3.7	Tread width, rear	b11	mm	1718	1718
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β	°	6/12	6/12
	4.2	Retracted mast height	h1	mm	2480	2480
	4.3	Free lift	h2	mm	160	160
	4.4	Lift height	h3	mm	3000	3000
	4.5	Height, mast extended	h4	mm	4470/3965	4470/3965
	4.7	Height of overhead guard (cabin)	h6	mm	2590	2590
	4.8	Seat height/standing height	h7	mm	1490	1490
	4.12	Tow coupling height	h10	mm	600	600
	4.19	Overall length	l1	mm	4720	4720
	4.20	Length to face of forks	l2	mm	3500	3500
	4.21	Overall width	b1/b2	mm	2028	2028
	4.22	Fork dimensions	s/e/l	mm	60x150x1220	60x150x1220
	4.23	A,B Fork carriage class/type A, B			/	/
	4.24	Fork carriage width	b3	mm	1845	1845
	4.31	Ground clearance, laden, below mast	m1	mm	160	160
	4.32	Ground clearance, center of wheelbase	m2	mm	265	265
	4.34.1	Aisle width for pallets 1000×1200 crossways	Ast	mm	5260	5260
	4.34.2	Aisle width for pallets 800×1200 lengthways	Ast	mm	5260	5260
	4.35	Turning radius	Wa	mm	3235	3235
Performance data	5.1	Travel speed, laden/unladen		km/ h	25/26	25/26
	5.2	Lifting speed, laden/unladen		m/s	0.51/0.53	0.51/0.53
	5.3	Lowering speed, laden/unladen		m/s	0.48/0.42	0.48/0.42
	5.5	Drawbar pull, laden/unladen		N	/	/
	5.6	Max. drawbar pull, laden/unladen		N	/	/
	5.8	Max. gradeability, laden/unladen		%	30/34	30/34
	5.10	Service brake			Hydraulic	Hydraulic
	5.11	Parking brake			Mechanical	Mechanical
Electric-engine	6.1	Drive motor rating S2 60 min		kW	60	60
	6.2	Lift motor rating at S3 15%		kW	2x27.8	2x27.8
	6.4	Battery voltage/nominal capacity		V/Ah	309V/228Ah	309V/228Ah
	6.5	Battery weight		kg	693	693
Addition data	8.1	Type of drive control			PMSM	PMSM
	10.5	Steering design			Hydraulic	Hydraulic
	10.7	Sound pressure level at the driver's ear		dB(A)	/	/

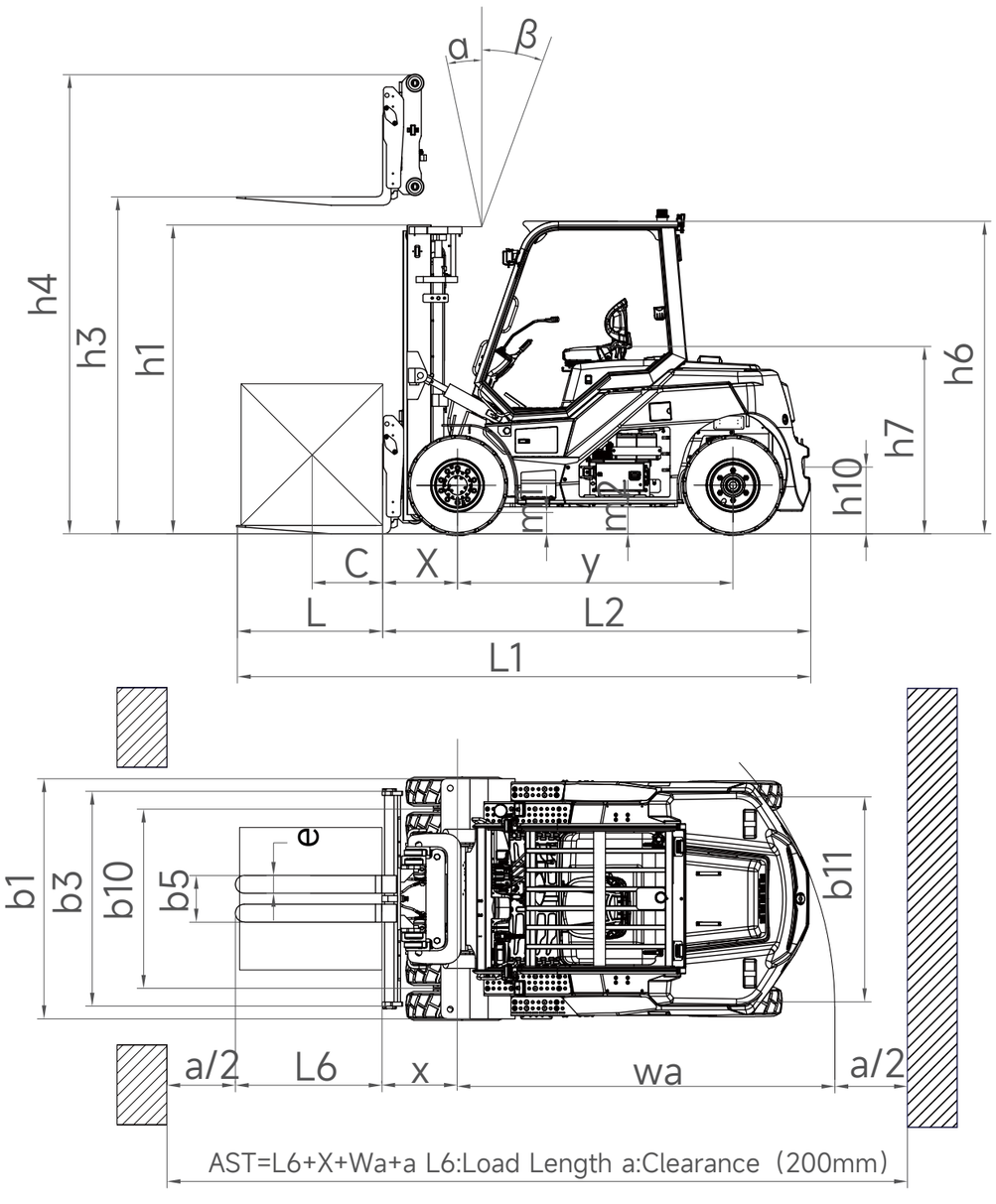
If there are improvements of technical parameters or configurations, no further notice will be given.
The diagram shown may contain non-standard configurations.

High Capacity Electric Counterbalanced Forklift 6-7.5T

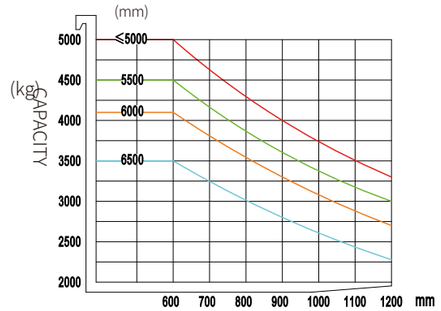
EFL603-HV/703-HV/753-HV

Distinguishing mark	1.1	Manufacturer			EP	EP	EP
	1.2	Model designation			EFL603-HV-6	EFL703-HV-6	EFL753-HV-6
	1.3	Drive			Electric	Electric	Electric
	1.4	Operator type			Seated	Seated	Seated
	1.5	Load capacity	Q	kg	6000	7000	7500
	1.6	Load center distance	c	mm	600	600	600
	1.8	Load distance，centre of drive axle to fork	x	mm	603.5	608.5	613.5
	1.9	Wheelbase	y	mm	2300	2300	2300
Service weight	2.1	Service weight		kg	9250	9950	10350
	2.2	Axle loading, laden front/rear		kg	13755/1495	15200/1750	16010/1885
	2.3	Axle loading, unladen front/rear		kg	4610/4640	4515/5435	4480/5870
Tyres/chassis	3.1	Tyre type			pneumatic	pneumatic	pneumatic
	3.2	Tyre size, front			8.25-15-14PR	8.25-15-14PR	8.25-15-14PR
	3.3	Tyre size, rear			8.25-15-14PR	8.25-15-14PR	8.25-15-14PR
	3.5	Wheels, number front/rear (x=drive wheels)		mm	4x/2	4x/2	4x/2
	3.6	Tread width, front	b10	mm	1498	1498	1498
	3.7	Tread width, rear	b11	mm	1718	1718	1718
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β	°	6/12	6/12	6/12
	4.2	Retracted mast height	h1	mm	2480	2480	2580
	4.3	Free lift	h2	mm	160	165	170
	4.4	Lift height	h3	mm	3000	3000	3000
	4.5	Height, mast extended	h4	mm	4470/3965	4470/3965	4470/4065
	4.7	Height of overhead guard (cabin)	h6	mm	2590	2590	2590
	4.8	Seat height/standing height	h7	mm	1490	1490	1490
	4.12	Tow coupling height	h10	mm	600	600	600
	4.19	Overall length	l1	mm	4720	4775	4780
	4.20	Length to face of forks	l2	mm	3500	3555	3560
	4.21	Overall width	b1/b2	mm	2028	2028	2028
	4.22	Fork dimensions	s/e/l	mm	60x150x1220	65x150x1220	70x150x1220
	4.23	A,B Fork carriage class/type A, B			/	/	4A
	4.24	Fork carriage width	b3	mm	1845	1845	1845
	4.31	Ground clearance, laden, below mast	m1	mm	160	160	160
	4.32	Ground clearance, center of wheelbase	m2	mm	265	265	265
	4.34.1	Aisle width for pallets 1000×1200 crossways	Ast	mm	5260	5265	5270
	4.34.2	Aisle width for pallets 800×1200 lengthways	Ast	mm	5260	5265	5270
	4.35	Turning radius	Wa	mm	3235	3255	3255
Performance data	5.1	Travel speed, laden/unladen		km/ h	25/26	25/26	25/26
	5.2	Lifting speed, laden/unladen		m/s	0.51/0.53	0.51/0.53	0.51/0.53
	5.3	Lowering speed, laden/unladen		m/s	0.48/0.42	0.48/0.42	0.48/0.42
	5.5	Drawbar pull, laden/unladen		N	/	/	/
	5.6	Max. drawbar pull, laden/unladen		N	/	/	/
	5.8	Max. gradeability, laden/unladen		%	30/34	30/30	30/30
	5.10	Service brake			Hydraulic	Hydraulic	Hydraulic
	5.11	Parking brake			Mechanical	Mechanical	Mechanical
Electric-engine	6.1	Drive motor rating S2 60 min		kW	60	60	60
	6.2	Lift motor rating at S3 15%		kW	2x27.8	2x27.8	2x27.8
	6.4	Battery voltage/nominal capacity		V/Ah	309V/228Ah	309V/228Ah	309V/228Ah
	6.5	Battery weight		kg	693	693	693
Addition data	8.1	Type of drive control			PMSM	PMSM	PMSM
	10.5	Steering design			Hydraulic	Hydraulic	Hydraulic
	10.7	Sound pressure level at the driver's ear		dB(A)	/	/	/

If there are improvements of technical parameters or configurations, no further notice will be given.
The diagram shown may contain non-standard configurations.

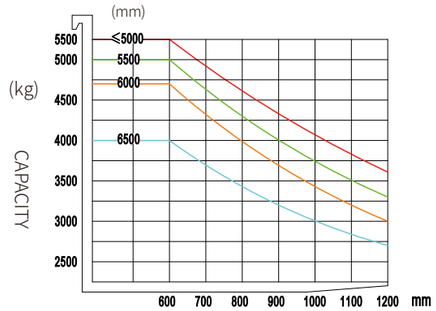


EFL503-HVD-6
RATED CAPACITIES AND LOAD CENTERES GRAPH



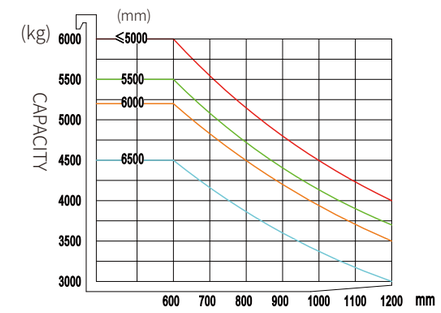
LOAD CENTRE POSITION (mm)

EFL553-HVD-6
RATED CAPACITIES AND LOAD CENTERES GRAPH



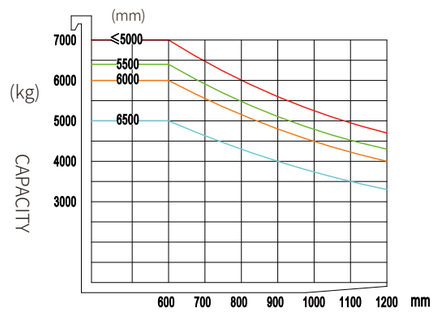
LOAD CENTRE POSITION (mm)

EFL603-HV-6
RATED CAPACITIES AND LOAD CENTERES GRAPH



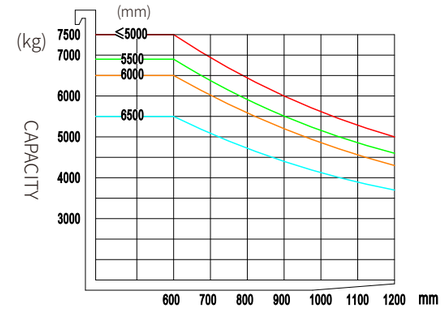
LOAD CENTRE POSITION (mm)

EFL703-HV-6
RATED CAPACITIES AND LOAD CENTERES GRAPH



LOAD CENTRE POSITION (mm)

EFL753-HV-6
RATED CAPACITIES AND LOAD CENTERES GRAPH



LOAD CENTRE POSITION (mm)

Mast Option

EFL503-HVD-6/EFL503-HVD-6/EFL603-HV-6

Mast types	Lift height (h3)	Height, Mast			Height,Free lift(h2)	
		Height, mast lowered(h1)	Height, mast extended(h4)		No backrest	With backrest
			No backrest	With backrest		
	mm	mm	mm	mm	mm	mm
2-Standard Mast	3000	2480	3960	4470	160	160
	3500	2730	4460	4970	160	160
	4000	2980	4960	5470	160	160
	4500	3280	5460	5970	160	160
	5000	3530	5960	6470	160	160
	5500	3830	6460	6970	160	160
	6000	4080	6960	7470	160	160
	6500	4380	7460	7970	160	160
2-Free Mast	3000	2480	4310	4470	1495	1313
	3500	2730	4810	4970	1700	1580
	4000	2980	5310	5470	1995	1813
3-Free Mast	4500	2660	5636	5976	1560	1220
	4800	2760	5936	6276	1660	1320
	5000	2810	6086	6476	1760	1370
	5500	3010	6686	6976	1860	1570
	6000	3160	7136	7476	2060	1720
	6500	3310	7586	7976	2260	1870
	7000	3610	8286	8476	2360	2170

EFL703-HV-6

Mast types	Lift height (h3)	Height, Mast			Height,Free lift(h2)	
		Height, mast lowered(h1)	Height, mast extended(h4)		No backrest	With backrest
			No backrest	With backrest		
	mm	mm	mm	mm	mm	mm
2-Standard Mast	3000	2480	3960	4470	165	165
	3500	2730	4460	4970	165	165
	4000	2980	4960	5470	165	165
	4500	3280	5460	5970	165	165
	5000	3530	5960	6470	165	165
	5500	3830	6460	6970	165	165
	6000	4080	6960	7470	165	165
	6500	4380	7460	7970	165	165
2-Free Mast	3000	2480	4310	4470	1400	1318
	3500	2730	4810	4970	1705	1585
	4000	2980	5310	5470	2000	1818
3-Free Mast	4500	2660	5636	5976	1565	1225
	4800	2760	5936	6276	1665	1325
	5000	2810	6086	6476	1765	1375
	5500	3010	6686	6976	1865	1575
	6000	3160	7136	7476	2065	1725
	6500	3310	7586	7976	2265	1875
	7000	3610	8286	8476	2365	2175

EFL753-HV-6

Mast types	Lift height (h3)	Height, Mast			Height,Free lift(h2)	
		Height, mast lowered(h1)	Height, mast extended(h4)		No backrest	With backrest
			No backrest	With backrest		
	mm	mm	mm	mm	mm	mm
2-Standard Mast	3000	2580	3960	4470	170	170
	3500	2830	4460	4970	170	170
	4000	3080	4960	5470	170	170
	4500	3380	5460	5970	170	170
	5000	3630	5960	6470	170	170
	5500	3930	6460	6970	170	170
	6000	4180	6960	7470	170	170
	6500	4480	7460	7970	170	170
2-Free Mast	3000	2580	4310	4470	1495	1313
	3500	2830	4810	4970	1700	1580
	4000	3080	5310	5470	1995	1813
3-Free Mast	4500	2660	5636	5976	1570	1230
	4800	2760	5936	6276	1670	1330
	5000	2810	6086	6476	1770	1380
	5500	3010	6686	6976	1870	1580
	6000	3160	7136	7476	2070	1730
	6500	3310	7586	7976	2270	1880
	7000	3610	8286	8476	2370	2180

Standard Configuration

- Hook-on forks
- 1220mm forks
- 1995mm load backrest
- 309V228Ah LFP battery
- Heating system for lithium battery charging
- Mechanical lever
- Pneumatic tyres
- Standard overhead guard
- Mast lifting and lowering buffer
- Buzzer
- Rear grab handle with horn
- Upgraded suspension seat with armrest + headrest + safety seat-belt switch
- OPS system
- Lighting package: LED front working light, turn signal light, market light, LED rear working light, strobe warning light

Options

- ○ Customized fork length/non-standard accessories
- ○ Customized fork carriage width
- ○ Attachments:

Hook on type sideshift

Hook on type fork positioner with sideshift

Fork positioner with pin type forks

- ○ 309V304Ah LFP battery
- ○ Charger

20kw (AC 370V-460V, 50-60HZ, 32A plug)

40kw (AC 370V-460V, 50-60HZ, 63A plug)

- ○ Solid tyres / non-marking tyres
- ○ Fingertips
- ○ Reversing radar/reversing camera/reversing radar and camera
- ○ Grammer MSG65-531 (suspension seat with armrest + safety belt switch)
- ○ Lights:

LED working lights on mast

Rotating warning light / rotating buzzer warning light

Rear/rear and front blue lamp

Front fog light

Customized area warning lamp

- ○ Cigarette lighter socket 12V5A
- ○ USB interface 24V
- ○ Turn speed control
- ○ Adjustable overspeed alarm
- ○ Cabin options:

Basic half-cabin: front windshield, front wiper (including sprinkler), roof

Upgrade half-cabin: basic half-cabin, rear windshield, rear wiper

Basic full cabin: upgrade half-cabin, left and right doors, defogging function

Upgrade full cabin: basic full cabin, air conditioner

Innovation Through Simplicity

EP EQUIPMENT CO.,LTD V2505.02

www.ep-equipment.com Email: info@ep-ep.com

EP Industrial Park, Xiaquan Village, Lingfeng Street, Anji County, Huzhou City, Zhejiang Province

Let's grow together

EFL803-HV/1003-HV

High Capacity Electric Counterbalanced Forklift 8-10T

LI-ION TECHNOLOGY



WHY HIGH VOLTAGE?

Introducing high-voltage electric forklifts with a complete lineup from 4 to 25-ton load capacities, marking the era of high-voltage high-capacity Li-ion trucks.
This groundbreaking development adopts world-leading high-voltage Lithium-ion power combined with advanced PMSM (Permanent Magnet Synchronous Motor) technology. These high-capacity forklifts ensure triple guarantees of high performance, long running time and safety while aligning with the current trend of green and sustainable development.



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.

45%

Faster lifting speed demonstrated by the high-voltage models.

45%

Improvement in gradeability when laden for high voltage models.

100%

Improvement in gradeability when unladen.

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. High-voltage systems consume less energy and provide longer battery running time comparing low-voltage systems. 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. This means that high-capacity trucks can work continuously for prolonged hours at lower costs.

4000

cycles for high-voltage Li-ion batteries

Equipped with fast charging capabilities, high-capacity trucks offer a remarkable charging experience. 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

Lithium batteries present considerably lower charging costs than fuel expenses. The integration of high-voltage and PMSM technology achieves up to 15% greater electricity savings versus traditional lithium and AC technology configurations. This significantly reduces long-term energy consumption costs.



1C
Charging

1 hour
Fully charged

15%
Energy savings

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 water cooling systems provide superior cooling performance, preventing the truck from overheating even under the most demanding conditions or in the heat of summer. Water's higher heat transfer capacity compared to air allows it to dissipate heat more efficiently from critical components like the motor and battery. This efficient heat dissipation helps maintain the battery temperature around 30~35°C, protecting these vital components from overheating and potential damage or failure. Consequently, this enhances the overall reliability and longevity of the high-capacity trucks.

Additionally, water cooling systems typically operate with less noise compared to air cooling systems that rely on high-speed fans. This noise reduction is particularly beneficial in applications where a quieter operation is desirable, such as in urban areas or indoor facilities.

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. By effectively managing the temperature of the hydraulics system, the oil cooling system contributes to the smooth and reliable operation of the truck's hydraulic functions.



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

Both high-voltage lithium batteries and PMSM employ multiple protective measures to ensure safe operations including overcharge protection, over-temperature monitoring, short-circuit protection, etc. minimizing the risk of potential hazards and maximizing operational safety.



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. With controlled deceleration, the fork movement is smooth with no abrupt stops that could damage the load or cause operator discomfort. This feature enhances operational safety and prolongs the lifespan of the mast components.



Low maintenance: Longer battery life span

Operating at a higher voltage allows the battery to be designed with fewer individual cells. With fewer components and a simpler design, the risk of battery failure is lowered.

Thanks to advanced BMS (Battery Management System) which helps to regulate and monitor high-voltage battery, these batteries tend to have a longer life than low-voltage lithium batteries, reducing the need of battery replacement.

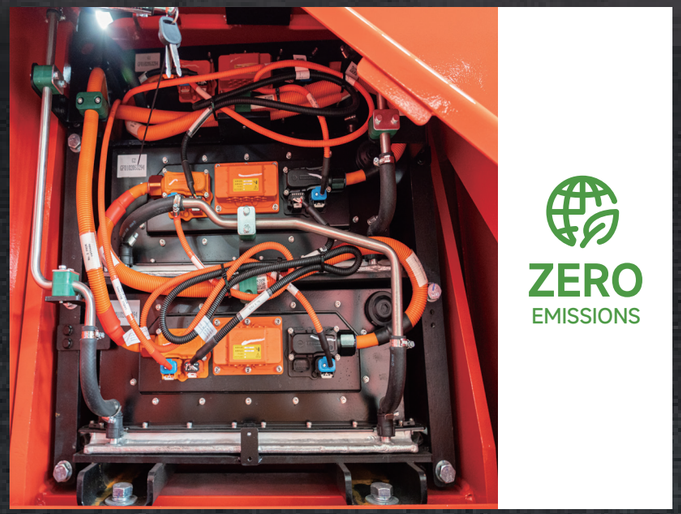
The brushless, simple rotor design of PMSM eliminates mechanical wear from brushes and commutators. This durable, low-friction construction requires minimal periodic maintenance, reducing associated labor costs and downtime.



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°C~40°C 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.

The dual front wheels is a standard configuration on several models offering a wider base of support, which greatly improves the forklift's stability. Considering the capacity loads of the high-capacity trucks, the weight of the load is more evenly distributed across a larger surface area. The increased ground contact area provided by the dual wheels enhances traction. This is particularly beneficial in environments where the floor may be slippery or uneven while operating outdoors, ensuring that the forklift can maintain a firm grip and operate safely. This not only helps in maintaining balance but also minimizes the stress on individual tires, extending the lifespan of the tires.



Great support for clients' investment: After-sales Service

Remote/Online Services:

Telematics technology enables remote monitoring of battery conditions, performance status, and other critical parameters for forklifts. Additionally, production, technical, and after-sales experts are available around the clock to provide prompt and comprehensive solutions for any maintenance issues through virtual support.

Physical Services:

Comprehensive manuals and supporting documents are provided for all forklift models. In case of breakdowns or replacements, spare parts are swiftly delivered to the clients' locations by global subsidiaries or domestic inventory, minimizing operational disruptions caused by equipment downtime.

DIVERSE LOADS, WE GOT YOU.

EFL803,1003-HV are engineered for the most demanding heavy-duty applications in industries like mining, quarry and stone industry, heavy equipment manufacturing, etc. The dual front wheels offer superior load distribution and stability when handling extraordinarily heavy loads. Despite their compact size and small turning radius, these forklifts boast a high ground clearance, allowing them to navigate challenging terrains with ease. The max travel speed of 30km/h allows the trucks to move swiftly, handling operations efficiently over long distances. Designed with low noise levels, these trucks can provide comfortable working environments for operators, minimizing impacts in noise-sensitive working environments. Additionally, the optional attachment like fork positioner with sideshift enables these forklifts to carry different shapes of loads, enhancing their versatility in handling diverse cargo.









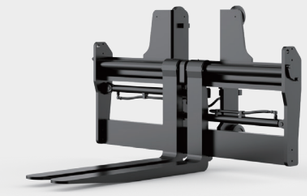
Everything you want in one truck

Mast

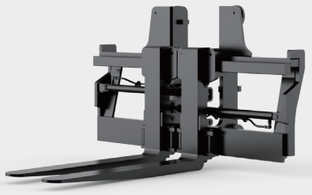


Lifting and lowering Buffer
Max Lifting height up to 7000mm*

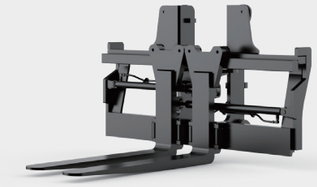
Attachments



Fork positioner with pin type forks
This versatile combination allows handling different load sizes/positions



Fork positioner with sideshift: Forks with terminal west*
The shaped fork tips facilitate pallet/load entry

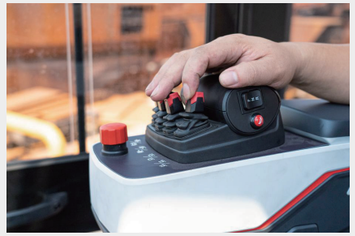


Fork positioner with sideshift: Roller guiden forks*
Allowing easier pallet/load entry

Operating Compartment



Cabin with AC and heater*



Fingertips*



AC and heater*



LED Display



Reversing camera*



Battery



309V304Ah LFP battery
Battery heating when charging

Lights



Front working lights



Strobe warning light



Area warning light*

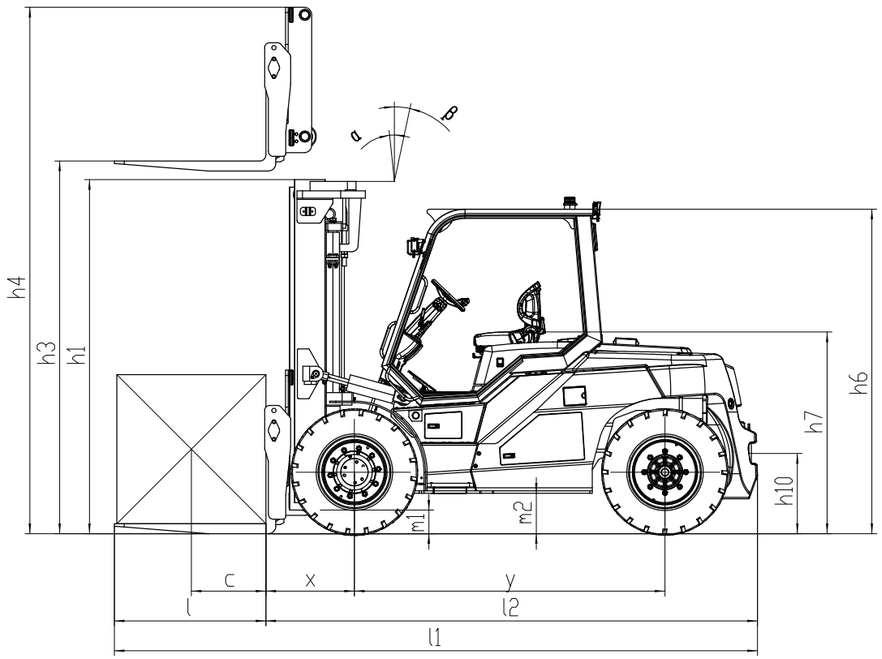
The configurations marked with an asterisk (*) are optional.

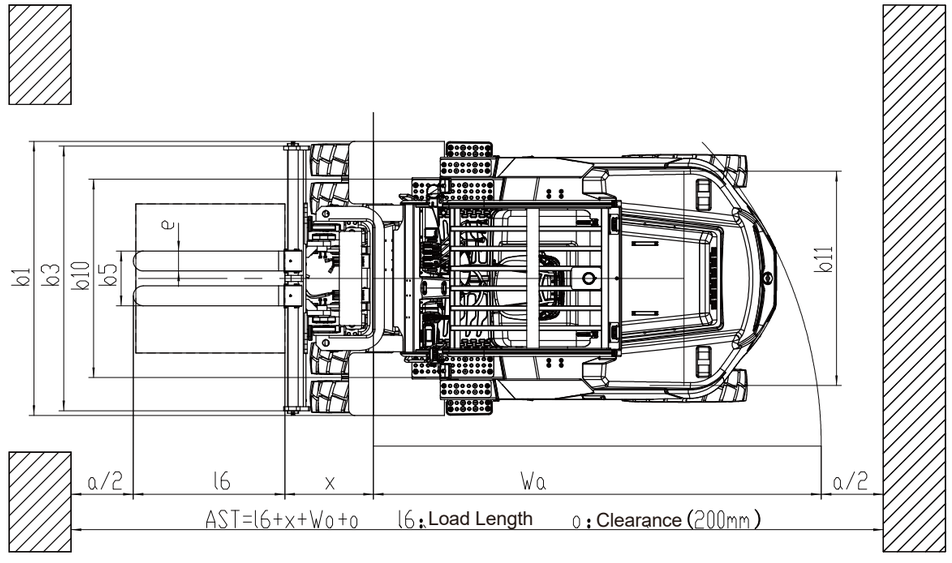
High Capacity Electric Counterbalanced Forklift 8-10T

EFL803-HV/1003-HV

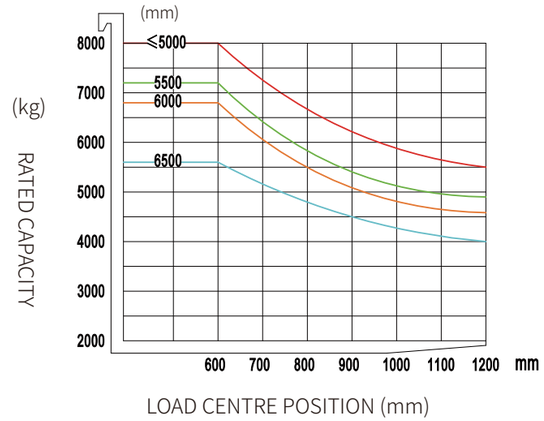
Distinguishing mark	1.1	Manufacturer			EP	EP	EP
	1.2	Model designation			EFL803-HV-6	EFL803-HV-9	EFL1003-HV-6
	1.3	Drive			Electric	Electric	Electric
	1.4	Operator type			Seated	Seated	Seated
	1.5	Load capacity	Q	kg	8000	8000	10000
	1.6	Load center distance	c	mm	600	900	600
	1.8	Load distance，centre of drive axle to fork	x	mm	708	718	713
	1.9	Wheelbase	y	mm	2500	2500	2500
Service weight	2.1	Service weight		kg	12325	13900	13900
	2.2	Axle loading, laden front/rear		kg	18290/2035	19250/2650	21340/2560
	2.3	Axle loading, unladen front/rear		kg	6105/6220	6090/7810	6090/7810
Tyres/chassis	3.1	Tyre type			pneumatic	pneumatic	pneumatic
	3.2	Tyre size, front			9.00-20-14PR	9.00-20-14PR	9.00-20-14PR
	3.3	Tyre size, rear			9.00-20-14PR	9.00-20-14PR	9.00-20-14PR
	3.5	Wheels, number front/rear (x=drive wheels)		mm	4x/ 2	4x/ 2	4x/ 2
	3.6	Tread width, front	b10	mm	1600	1600	1600
	3.7	Tread width, rear	b11	mm	1700	1700	1700
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β	°	6/12	6/12	6/12
	4.2	Retracted mast height	h1	mm	2850	2850	2850
	4.3	Free lift	h2	mm	195	205	200
	4.4	Lift height	h3	mm	3000	3000	3000
	4.5	Height, mast extended	h4	mm	4310	4310	4310
	4.7	Height of overhead guard (cabin)	h6	mm	2680	2680	2680
	4.8	Seat height/standing height	h7	mm	1550	1550	1550
	4.12	Tow coupling height	h10	mm	630	630	630
	4.19	Overall length	l1	mm	5475	5785	5480
	4.2	Length to face of forks	l2	mm	3955	3965	3960
	4.21	Overall width	b1/b2	mm	2200	2200	2200
	4.22	Fork dimensions	s/e/l	mm	75×160×1520	85×160×1820	80×160×1520
	4.23	A,B Fork carriage class/type A, B			/	/	/
	4.24	Fork carriage width	b3	mm	2130	2130	2130
	4.31	Ground clearance, laden, below mast	m1	mm	250	250	250
	4.32	Ground clearance, center of wheelbase	m2	mm	345	345	345
	4.34.1	Aisle width for pallets 1000×1200 crossways	Ast	mm	6033	6343	6038
	4.34.2	Aisle width for pallets 800×1200 lengthways	Ast	mm	6033	6343	6038
	4.35	Turning radius	Wa	mm	3605	3605	3605
Performance data	5.1	Travel speed, laden/unladen		km/ h	29/30	29/30	29/30
	5.2	Lifting speed, laden/unladen		m/s	0.39/0.47	0.39/0.47	0.39/0.47
	5.3	Lowering speed, laden/unladen		m/s	0.46/0.4	0.46/0.4	0.46/0.4
	5.5	Drawbar pull, laden/unladen		N	/	/	/
	5.6	Max. drawbar pull, laden/unladen		N	/	/	/
	5.8	Max. gradeability, laden/unladen		%	22/30	22/30	22/30
	5.10	Service brake			Hydraulic	Hydraulic	Hydraulic
	5.11	Parking brake			Mechanical	Mechanical	Mechanical
Electric-engine	6.1	Drive motor rating S2 60 min		kW	60	60	60
	6.2	Lift motor rating at S3 15%		kW	2x27.8	2x27.8	2x27.8
	6.4	Battery voltage/nominal capacity		V/Ah	309V/304AH	309V/304AH	309V/304AH
	6.5	Battery weight		kg	860	860	860
Addition data	8.1	Type of drive control			PMSM	PMSM	PMSM
	10.5	Steering design			Hydraulic	Hydraulic	Hydraulic
	10.7	Sound pressure level at the driver's ear		dB(A)	/	/	/

If there are improvements of technical parameters or configurations, no further notice will be given.
The diagram shown may contain non-standard configurations.



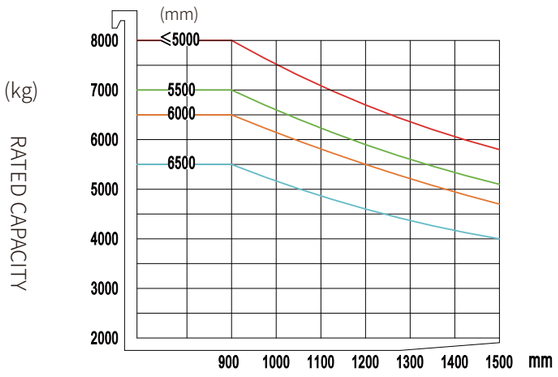


EFL803-HV-6
RATED CAPACITIES AND LOAD CENTERES GRAPH



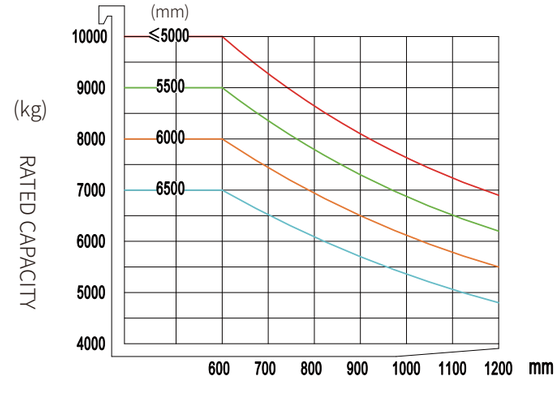
LOAD CENTRE POSITION (mm)

EFL803-HV-9
RATED CAPACITIES AND LOAD CENTERES GRAPH



LOAD CENTRE POSITION (mm)

EFL1003-HV-6
RATED CAPACITIES AND LOAD CENTERES GRAPH



LOAD CENTRE POSITION (mm)

Mast Option

EFL803-HV-6

Mast types	Lift height (h3)	Height, Mast			Height,Free lift(h2)	
		Height, mast lowered(h1)	Height, mast extended(h4)		No backrest	With backrest
			No backrest	With backrest		
	mm	mm	mm	mm	mm	mm
2-Standard Mast	3000	2850	4310	—	195	—
	3300	3000	4610		195	
	3500	3100	4810	—	195	—
	4000	3350	5310	—	195	—
	4500	3650	5810	—	195	—
	5000	3900	6310	—	195	—
	5500	4200	6810	—	195	—
	6000	4450	7310	—	195	—
	6500	4750	7810	—	195	—
2-Free Mast	3000	2850	4310	—	1300	—
	3500	3100	4810	—	1550	—
	4000	3350	5310	—	1800	—
3-Free Mast	4500	2950	5950	—	1535	—
	4800	3050	6250	—	1635	—
	5000	3116	6451	—	1702	—
	5500	3283	6949	—	1868	—
	6000	3450	7450	—	2035	—
	6500	3616	7951	—	2202	—
	7000	3783	8449	—	2368	—

EFL803-HV-9

Mast types	Lift height (h3)	Height, Mast			Height,Free lift(h2)	
		Height, mast lowered(h1)	Height, mast extended(h4)		No backrest	With backrest
			No backrest	With backrest		
	mm	mm	mm	mm	mm	mm
2-Standard Mast	3000	2850	4310	—	205	—
	3300	3000	4610		205	
	3500	3100	4810	—	205	—
	4000	3350	5310	—	205	—
	4500	3650	5810	—	205	—
	5000	3900	6310	—	205	—
	5500	4200	6810	—	205	—
	6000	4450	7310	—	205	—
	6500	4750	7810	—	205	—
2-Free Mast	3000	2850	4310	—	1310	—
	3500	3100	4810	—	1560	—
	4000	3350	5310	—	1810	—
3-Free Mast	4500	2950	5950	—	1545	—
	4800	3050	6250	—	1645	—
	5000	3116	6451	—	1712	—
	5500	3283	6949	—	1878	—
	6000	3450	7450	—	2045	—
	6500	3616	7951	—	2212	—
	7000	3783	8449	—	2378	—

EFL1003-HV-6

Mast types	Lift height (h3)	Height, Mast			Height,Free lift(h2)	
		Height, mast lowered(h1)	Height, mast extended(h4)		No backrest	With backrest
			No backrest	With backrest		
	mm	mm	mm	mm	mm	mm
2-Standard Mast	3000	2850	4310	—	200	—
	3300	3000	4610		200	
	3500	3100	4810	—	200	—
	4000	3350	5310	—	200	—
	4500	3650	5810	—	200	—
	5000	3900	6310	—	200	—
	5500	4200	6810	—	200	—
	6000	4450	7310	—	200	—
	6500	4750	7810	—	200	—
2-Free Mast	3000	2850	4310	—	1305	—
	3500	3100	4810	—	1555	—
	4000	3350	5310	—	1805	—
3-Free Mast	4500	2950	5950	—	1540	—
	4800	3050	6250	—	1640	—
	5000	3116	6451	—	1707	—
	5500	3283	6949	—	1873	—
	6000	3450	7450	—	2040	—
	6500	3616	7951	—	2207	—
	7000	3783	8449	—	2373	—

Standard Configuration

- Fork positioner with pin type forks
- Fork length 1520mm (600mm LC) / 1820mm (900mm LC)
- 2130mm fork carriage width
- 309V304Ah LFP battery
- Heating system for lithium battery charging
- Telematics
- Mechanical lever
- Buzzer
- Pneumatic tyres
- Standard overhead guard
- Mast lifting and lowering buffer
- Lighting package： LED front working light, turn signal light, market light, LED rear working light, strobe warning light
- Upgraded suspension seat with armrest + headrest + safety belt switch
- Rear grab handle with horn
- OPS system

Options

○ Customized fork length/non-standard accessories

○ Customized fork carriage width

○ Customized fork backrest

○ Attachments:

Fork positioner with sideshift: Forks with terminal west

Fork positioner with sideshift: Roller-guided forks

○ 309V228Ah LFP battery

○ Chargers

20kw (3 phase AC 370V-460V, 50-60HZ, 32A plug)

40kw (3 phase AC 370V-460V, 50-60HZ, 63A plug)

○ Fingertips

○ Solid tyres / non-marking tyres

○ Reversing radar/reversing camera/reversing radar and camera

○ Lights

LED working lights on mast

Rotating warning light / rotating buzzer warning light

Rear/front and rear blue lamp

Front fog light

Customized area warning lamp

○ Cigarette lighter socket 12V5A

○ USB interface 24V

○ Turn speed control

○ Adjustable overspeed alarm

○ Cabin options:

Basic half-cabin: front windshield, front wiper (including sprinkler), roof

Upgrade half-cabin:basic half-cabin, rear windshield, rear wiper

Basic full cabin:upgrade half-cabin, left and right doors, defogging function

Upgrade full cabin: basic full cabin, air conditioner

○ Grammer MSG65-531 (suspension seat with armrest + safety belt switch)