

EFL503-D-6

HIGH CAPACITY ELECTRIC COUNTERBALANCED FORKLIFT 6T

 5000 kg  3000 mm  96 V Li-Ion



Ideal for logistics centers, building materials, and manufacturing industries, the EFL503-D-6 excels in tough environments. Its reinforced chassis, high ground clearance, and 30% gradeability make it reliable on uneven terrain, while the dual front-wheel configuration ensures stable lifting and traction even under maximum load

SPECIFICATION	REF	UNIT	VALUE
Battery type			Li-Ion
Battery nominal capacity		Ah	690
Battery voltage		V	96
Load capacity	Q	kg	5000
Load centre distance	c	mm	600
Service weight		kg	7600
Retracted mast height	h_1	mm	2400
Lift height	h_3	mm	3000
Height, mast extended	h_4	mm	4361/3996
Overall length		mm	4370
Overall width	b_1/b_2	mm	1495
Length to face of forks	I_2	mm	3150
Fork dimensions	s/e/l	mm	60×150×1220
Turning radius		Wa	2730
Operator type			Seated
Load distance, centre of drive axle to fork		mm	555

Features

96V/690Ah Li-ion Battery for Extended Shifts

Increased capacity battery delivers longer operation without recharging, perfect for multi-shift use. 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.



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.

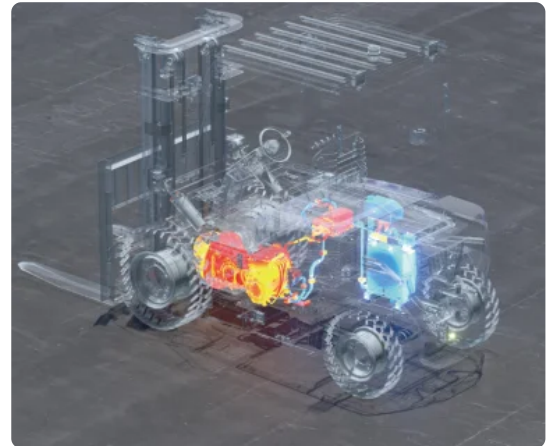
Smart and reliable strategy for thermal management

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.



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.



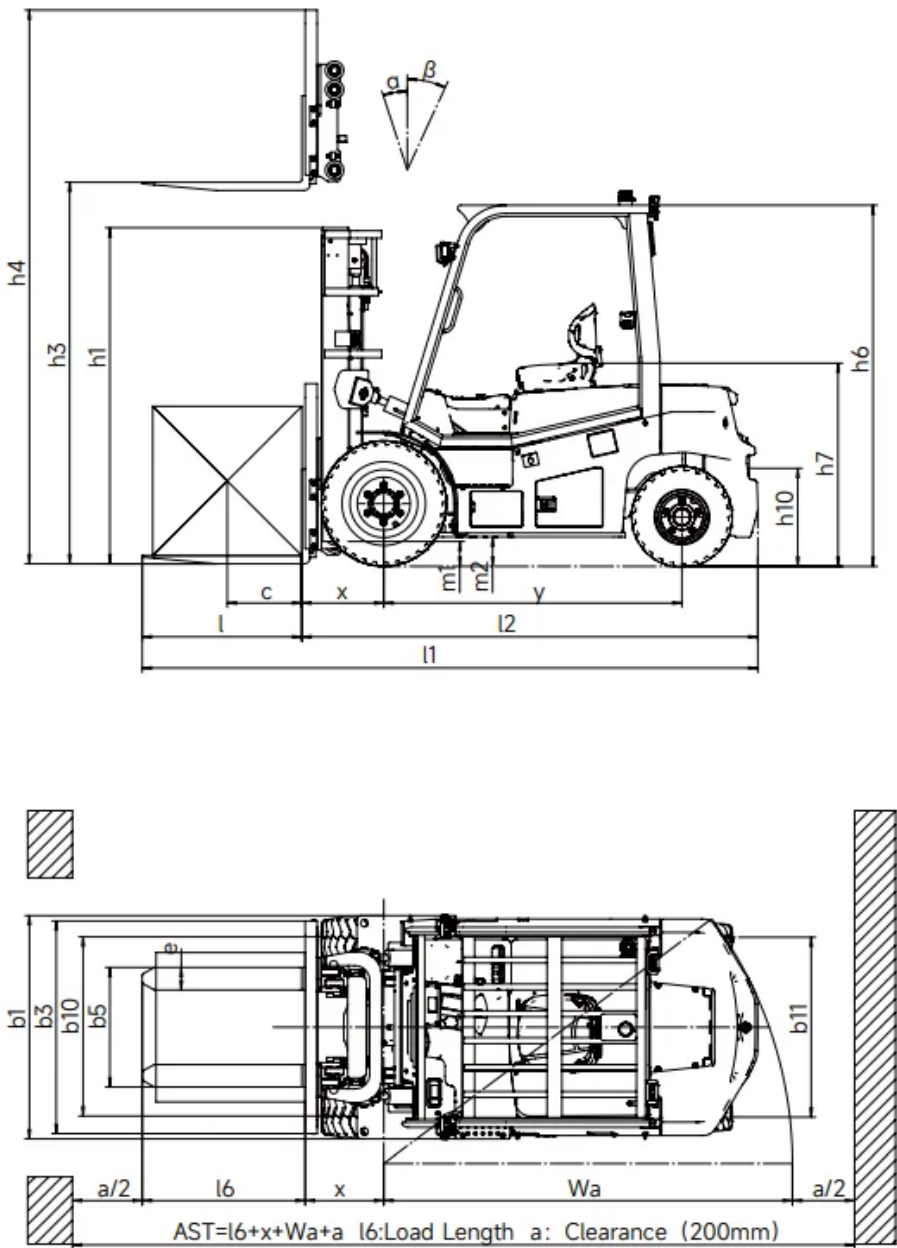
VDI Chart

SPECIFICATION		REF	UNIT	VALUE
1.4	Operator type			Seated
1.5	Load capacity	Q	kg	5000
1.6	Load centre distance	c	mm	600
1.8	Load distance, centre of drive axle to fork		mm	555
1.9	Wheelbase		mm	2000
2.1	Service weight		kg	7600
2.2	Axle loading, laden front/rear		kg	11195/1405
2.3	Axle loading, unladen front/rear		kg	3308/4292
3.1	Tyre type			Pneumatic
3.2	Tyre size, front			300-15-20PR
3.3	Tyre size, rear			7.00-12-14PR

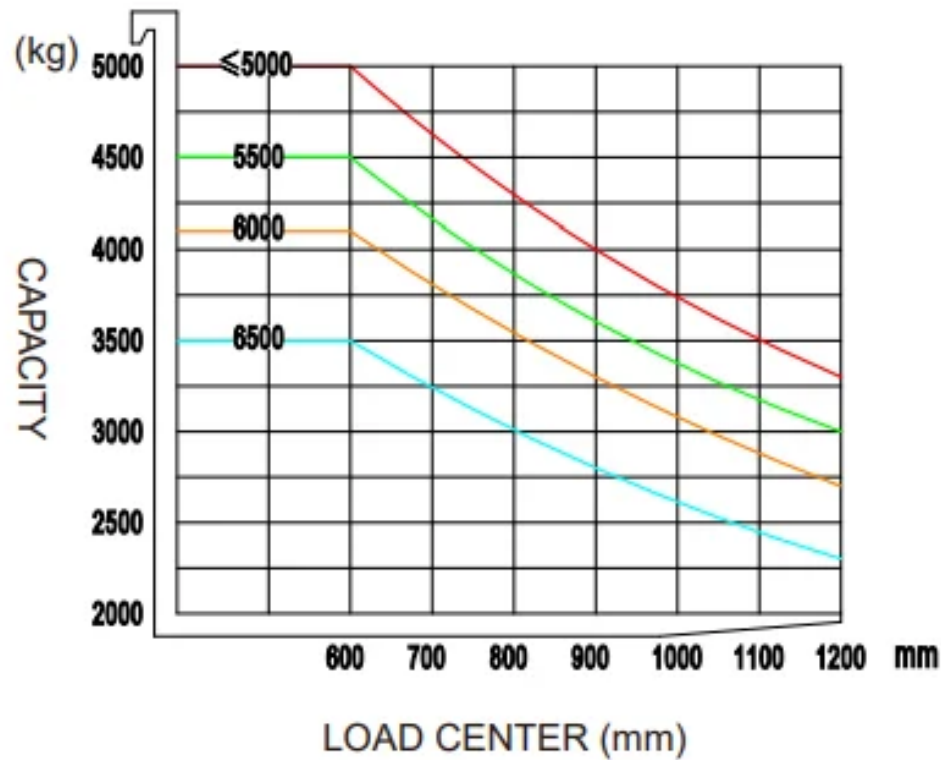
	SPECIFICATION	REF	UNIT	VALUE
3.5	Wheels, number front/rear (x=drive wheels)			2x/2
3.6	Tread width, front	b ₁₀	mm	1176
3.7	Tread width, rear	b ₁₁	mm	1190
4.1	Tilt of mast/fork carriage forward/backward		°	6/12
4.12	Tow coupling height		mm	640
4.13	Loading height, unladen			2400
4.15	Lowered height			2400
4.19	Overall length		mm	4370
4.2	Retracted mast height	h ₁	mm	2400
4.2.1	Overall height			4361
4.20	Length to face of forks	I ₂	mm	3150
4.21	Overall width	b ₁ /b ₂	mm	1495
4.22	Fork dimensions	s/e/l	mm	60×150×1220
4.23	A,B Fork carriage class/type A, B			4A
4.24	Fork carriage width		mm	1380 (1424)
4.25	Distance between fork-arms			1380
4.3	Free lift		mm	160
4.31	Ground clearance, laden, below mast		mm	150
4.32	Ground clearance, centre of wheelbase		mm	180
4.34.1	Aisle width for pallets 1000×1200 crossways		Ast	4705
4.34.2	Aisle width for pallets 800×1200 lengthways		Ast	4705
4.35	Turning radius		Wa	2730
4.4	Lift height	h ₃	mm	3000
4.4.1	Max lift height		mm	7000
4.5	Height, mast extended	h ₄	mm	4361/3996
4.7	Height of overhead guard (cabin)		mm	2400
4.8	Seat height/standing height		mm	1290
4.9	Height of tiller handle in drive position min./max.			1290
5.1	Travel speed, laden/unladen		km/h	24/25
5.10	Service brake			Hydraulic
5.11	Parking brake			Mechanical
5.2	Lifting speed, laden/unladen		m/s	0.38/0.48
5.3	Lowering speed, laden/unladen		m/s	0.41/0.42
5.8	Max. gradeability, laden/unladen		%	23/25

	SPECIFICATION	REF	UNIT	VALUE
6.1	Drive motor rating S2 60 min		kW	30
6.2	Lift motor rating at S3 15%		kW	27.8
6.4	Battery nominal capacity		Ah	690
6.4	Battery voltage		V	96
6.4.1	Battery type			Li-Ion
6.5	Battery weight		kg	473
8.1	Type of drive control			PMSM
10.5	Steering design			Hydraulic

VDI Drawing



EFL503-HV-6
RATED CAPACITIES AND LOAD CENTERES GRAPH



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)
2-Standard Mast	3000	2400	3996	4361	160	160
2-Standard Mast	3500	2650	4496	4861	160	160
2-Standard Mast	4000	2900	4996	5361	160	160
2-Standard Mast	4500	3200	5546	5861	160	160
2-Standard Mast	5000	3450	6046	6361	160	160
2-Standard Mast	5500	3750	6596	6861	160	160
2-Standard Mast	6000	4000	7096	7361	160	160
2-Standard Mast	6500	43000	7646	7861	160	160
2-Free Mast(Tentative)	3000	2250	-	4244	860	1364
2-Free Mast(Tentative)	3500	2500	-	4744	1110	1614

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)
2-Free Mast(Tentative)	4000	2750	-	5244	-	-
3-Free Mast	4500	2397	5370	5861	1557	1066
3-Free Mast	5000	2563	5870	6361	1724	1233
3-Free Mast	5500	2730	6370	6861	1724	1233
3-Free Mast	6000	2947	6920	7361	2058	1617
3-Free Mast	6500	3113	7420	7861	2225	1784
3-Free Mast	7000	3280	7920	8361	2392	1951

Options

ITEM	OPTIONS (optional items marked in yellow)
Fork dimension	1070mm forks (500mm LC) /1220mm forks (600mm LC) Customized fork length/non-standard accessories Hook-on forks
Fork carriage width option	1424mm Customized fork carriage width
Backrest height	Fork backrest with hook on type fork Customized fork backrest
Seat type	Grammer MSG65-531 mechanical suspension seat with armrest + safety belt switch Upgrade mechanical suspension seat with armrest + headrest + safety belt switch
Attachments	Hook-on sideshifter Hook-on fork positioner with sideshifter Fork positioner: Pin-type forks
Battery capacity	309V173Ah LFP battery
Charger	20kw (3 phase AC 370V-460V, 50-60HZ, 32A plug) 40kw (3 phase AC 370V-460V, 50-60HZ, 63A plug)
Buzzer	Yes
Camera	Reversing radar/reversing camera/reversing radar and camera
OPS system	Yes
USB interface	USB interface 24V
Telematics	Yes
Cabin	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
Overhead guard	Standard overhead guard

ITEM	OPTIONS (optional items marked in yellow)
Turn speed control	Optional
Heating system during lithium battery charging	Yes
Rear armrest horn	Yes
Mast lifting and lowering buffer	Yes
Lighting package	LED front working light, turn signal light, market light, LED rear working light, strobe warning light 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
Mechanical lever	Yes
Options	Solid tyres / non-marking tyres Cigarette lighter socket 12V5A Adjustable overspeed alarm