



RTF30-4L1-HV

HIGH-VOLTAGE LITHIUM 4WD ROUGH TERRAIN FORKLIFT 3.0T

 3000 kg  4800 mm



The RTF25/30/35-4L1-HV is designed to perform in the toughest outdoor environments where conventional forklifts struggle. Its 2WD/4WD mode switch, high ground clearance, and off-road tires make it well-suited for muddy and soft grounds, sandy terrain, and uneven construction sites. With up to 50% gradeability and stable handling, it is equally reliable on steep slopes and rugged mining areas. It is also suitable for forestry operations, lumber yards, and agricultural fields, where durability and zero emissions are highly valued.

SPECIFICATION	REF	UNIT	VALUE
Manufacturer			EP
Model designation			RTF30-4L1-HV
Battery voltage/nominal capacity		V/Ah	309/150
Rated capacity	Q	kg	3000
Load centre distance	c	mm	500
Service weight		kg	5400/ (5480)
Height, mast lowered	h ₁	mm	2215
Lift	h ₃	mm	3000
Height, mast extended	h ₄	mm	4095
Overall length	l ₁	mm	4168
Overall width	b ₁ /b ₂	mm	1500
Length to face of forks	l ₂	mm	3003
Fork dimensions	s/e/l	mm	45×122×1070
Turning radius	Wa	mm	3195
Drive			Electric
Operator type			Seated

Features

Confident performance on rough and uneven terrain

Equipped with optimized differential configurations for different load capacities, the truck provides enhanced traction and allows for one-touch switching between 2WD and 4WD modes.

2WD mode: Optimized for energy efficiency and extended runtime, ideal for smooth or unpaved roads.

4WD mode: Delivers enhanced traction and driving capability to tackle challenging conditions such as steep slopes, muddy or sandy terrain.

*Differential Configurations

The RTF25 is equipped with an automatic limited-slip differential on the front axle, which limits the speed difference between the two drive wheels and helps maintain traction when wheel grip varies.

The RTF30 and RTF35 feature a differential lock on the front axle and a limited-slip differential on the rear axle. When activated, the differential lock helps maintain driving force on both front wheels in challenging low-traction conditions, supporting the truck in overcoming difficult terrain.

Combined with 289mm of ground clearance and off-road tires, the truck delivers excellent off-road capability and traction on mud, sand, steep slopes and uneven ground, enabling reliable operation in demanding outdoor environments.



High performance: High speed and high gradeability

The 309V high-voltage Li-ion battery enable more power delivery to motors, improving acceleration and travel speeds for the rough terrain forklift. The adoption of high voltage can provide stable and strong power output, which further gives it excellent speeds and climbing capabilities ensuring that the forklift can cope with various applications with ease.

This high-voltage workhorse offers a 30%-50% performance improvement over the low-voltage and I/C models.



All controls at operator fingertips as standard

Hydraulic functions such as fork lifting and lowering, mast tilting, side-shifting, and the 4th hydraulic function for attachments are smoothly and ergonomically controlled through electronic fingertip controls integrated into the armrest. The travel direction switch is also conveniently positioned for intuitive operation, ensuring maximum comfort and effortless handling during long working shifts



Extended runtime thanks to 1C fast charging and flexible energy management

The RTF25/30/35-4L1-HV is powered by a 309V150Ah lithium battery pack, which has high energy density and can store 46.35 kWh electrical energy within the 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. Furthermore, lithium batteries present considerably lower charging costs than fuel expenses, significantly reducing long-term energy consumption costs.

Equipped with fast charging capabilities, the high-voltage rough terrain forklift offers a remarkable charging experience. It comes with a built-in charger and an external charging port on one truck, allowing operators to charge directly from the grid or connect to an optional energy storage cabinet. This ensures continuous operation and convenient energy management, even on remote construction sites where grid access is limited.

The RTF25/30/35-4L1-HV can also compatible with EP energy storage cabinet, suitable for off-grid applications.

Experience rapid recharging: just 1 hour per full charge, with enough capacity for 2 complete cycles from a single cabinet.



Compact structure for both outdoor and indoor applications

With its low overall height and agile overall width, the RTF25/30/35-4L1-HV is compact enough to enter underground garages, low-clearance warehouses, and confined passages. This allows operators to use it across different sites, from wide open outdoor areas to restricted indoor spaces.

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, the RTF25/30/35-4L1-HV offer an ambient temperature range of -25°C $\sim$ 40°C allowing them to perform no matter climate.

Battery heating when charging comes as a standard function, 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.



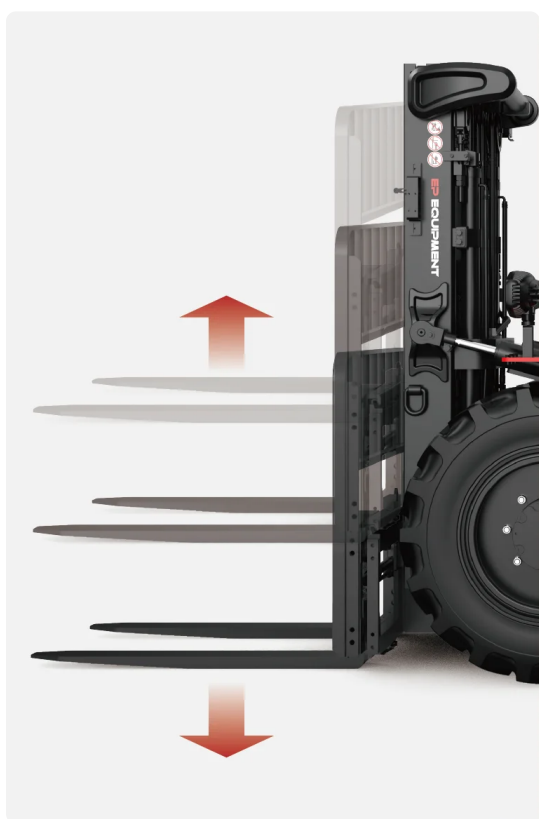
Safety assured: Battery, mast buffering and drive control

High-voltage lithium batteries 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 rough terrain forklifts. VCU provides precise control and real-time monitoring of critical parameters to ensure the truck operates within safe limits.

The 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.

Driving safety is also reinforced through speed reduction when mast is elevated, and turn speed control, ensuring both productivity and secure handling.



Smart and reliable strategy for thermal management

The high-voltage rough terrain forklift truck adopts optimized thermal management design for the motor, controller, power supply, and high-voltage battery, ensuring stable performance and reliable operation under demanding working conditions.

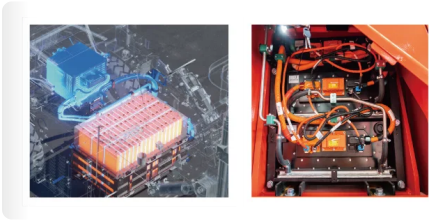
The optimized thermal management design delivers efficient heat dissipation to prevent overheating during continuous heavy-duty operation or in high ambient temperatures. With specially designed ventilation channels and enlarged cooling airflow paths, the system effectively protects key components from excessive heat buildup, reducing the risk of performance degradation or unexpected downtime. This contributes to enhanced reliability, durability, and longer service life of the truck.

By maintaining the battery within its optimal temperature range, the system helps ensure consistent performance, stable power output, and extended battery lifespan while preventing overheating during intensive applications.



Sustainability : zero emissions for cleaner environment

As fully electric trucks powered by lithium-ion batteries, the RTF25/30/35-4L1-HV produce zero emissions during operation, eliminating exposure to toxic fumes like carbon monoxide and nitrogen oxides. It contributes to a cleaner working environment without compromising handling capabilities.



VDI Chart

SPECIFICATION		REF	UNIT	VALUE
1.1	Manufacturer			EP
1.2	Model designation			RTF30-4L1-HV
1.3	Drive			Electric
1.4	Operator type			Seated
1.5	Rated capacity	Q	kg	3000
1.6	Load centre distance	c	mm	500
1.8	Load distance, centre of drive axle to fork	x	mm	625
1.9	Wheelbase	y	mm	1900

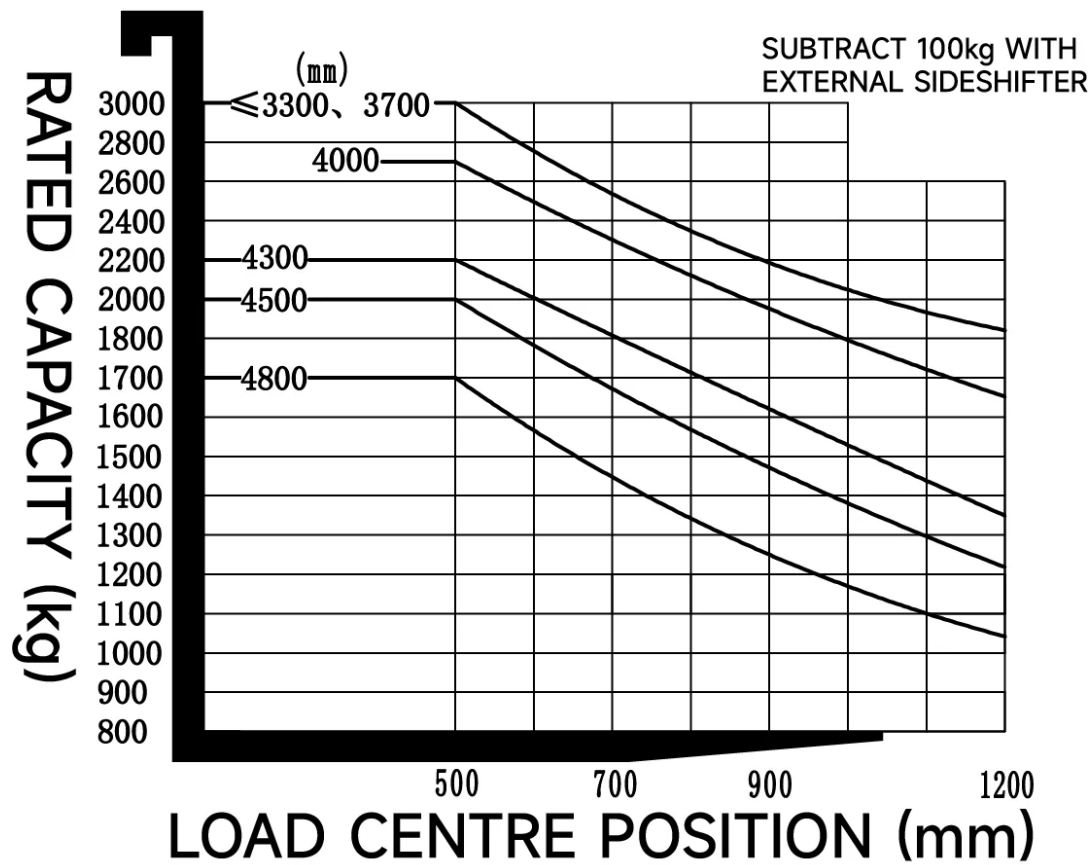
SPECIFICATION		REF	UNIT	VALUE
2.1	Service weight		kg	5400/ (5480)
2.2	Axle loading, laden front/rear		kg	6295/2105 (6345/2135)
2.3	Axle loading, unladen front/rear		kg	2430/2970 (2470/3010)
3.1	Tyres			Pneumatic
3.2	Tyre size, front		mm	12.5/80-18
3.3	Tyre size, rear		mm	27×10-12
3.5	Wheels, number front/rear (x=drive wheels)			2X/2X
3.6	Tread width, front	b ₁₀	mm	1161
3.7	Tread width, rear	b ₁₁	mm	1195
4.1	Tilt of mast/fork carriage forward/backward	α/β	°	10/12
4.2	Height, mast lowered	h ₁	mm	2215
4.3	Free lift	h ₂	mm	100
4.4	Lift	h ₃	mm	3000
4.5	Height, mast extended	h ₄	mm	4095
4.7	Height of overhead guard (cabin)	h ₆	mm	2015/(2165)
4.8	Seat height relating to SIP/stand height	h ₇	mm	976
4.12	Coupling height	h ₁₀	mm	486
4.19	Overall length	l ₁	mm	4168
4.20	Length to face of forks	l ₂	mm	3003
4.21	Overall width	b ₁ /b ₂	mm	1500
4.22	Fork dimensions	s/e/l	mm	45×122×1070
4.23	Fork carriage ISO 2328, class/type A, B			3A
4.24	Fork carriage width	b ₃	mm	1308
4.31	Ground clearance, laden, below mast	m ₁	mm	290
4.32	Ground clearance, centre of wheelbase	m ₂	mm	289
4.34.1	Aisle width for pallets 1000×1200 crossways	Ast	mm	4920
4.34.2	Aisle width for pallets 800 × 1200 lengthways	Ast	mm	5120
4.35	Turning radius	Wa	mm	3195
5.1	Travel speed, laden/unladen		km/h	20/20
5.2	Lift speed, laden/unladen		m/s	0.45/0.5
5.3	Lowering speed, laden/unladen		m/s	0.45/0.4
5.6	Max. drawbar pull, laden/unladen		N	54561
5.8	Max. gradeability, laden/unladen		%	42/48
5.10	Service brake			Mechanical/Hydraulic

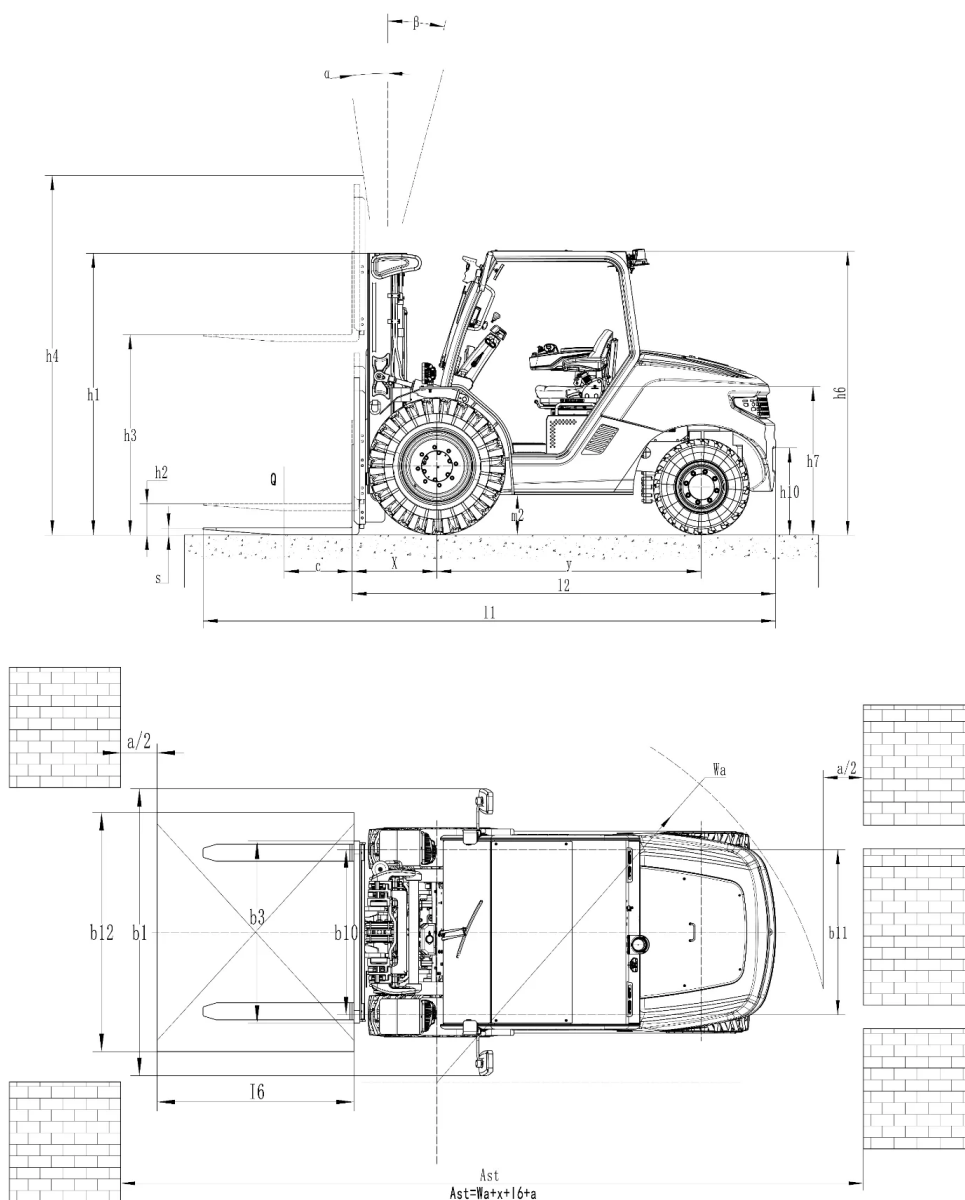
SPECIFICATION		REF	UNIT	VALUE
5.11	Parking brake			Mechanical
6.1	Drive motor rating S2 60 min		kW	30(F)/12.5(R)
6.2	Lift motor rating at S3 15%		kW	22
6.4	Battery voltage/nominal capacity		V/Ah	309/150
6.5	Battery weight		kg	500
8.1	Type of drive unit			PMSM
10.5	Steering design			Hydraulic
10.7	Sound pressure level at the driver's seat		dB(A)	70

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

RATED CAPACITIES 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)	FORWARD TILT (A, DEG)	BACKWARD TILT (B, MM)	LOAD DISTANCE (X, MM)
2-Standard Mast	2700	2080	3530	3845	150	150	10	12	599
2-Standard Mast	3000	2230	3830	4145	150	150	10	12	599
2-Standard Mast	3300	2380	4130	4445	150	150	10	12	599

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)
2-Standard Mast	3500	2480	4330	4645	150	150	10	12	599
2-Standard Mast	3700	2580	4530	4845	150	150	10	12	599
2-Standard Mast	4000	2780	4830	5145	150	150	10	12	599
2-Standard Mast	4500	3030	5330	5645	150	135	6	10	599
3-Free Mast	3700	2020	4560	4840	1205	925	10	12	605
3-Free Mast	4000	2180	4840	5120	1365	1085	10	12	605
3-Free Mast	4300	2250	5150	5430	1435	1155	6	10	605
3-Free Mast	4800	2435	5640	5920	1620	1340	6	10	605

Options

ITEM	OPTIONS (optional items marked in yellow)
Fork dimension	122*45*1070 Can be customized 122*45*1150 122*45*1220
Front wheel material	Pneumatic
Rear wheel material	Pneumatic
Battery capacity	309V150AH
Charger	309V-30A integrated charger 309V-65A 309V-10A integrated charger(only for non-CE region)
Seat type	GRAMMER-MSG65 GRAMMER-MSG75G531
Attachments	No Built-in sideshifter External sideshifter Fork positioner with sideshift
Electrostatic chain	Yes and not customized
Rearview mirror	One in front Two on sides and one in front
Cabin	Upgrade half cabin Full cabin Upgrade full cabin
Overhead guard	Standard Low profile
AS/NZS function package	No Yes and not customized
Turn speed control	No Yes and not customized
Operator identification device	No Card reader
Lifting electronic limit	No Yes and not customized

ITEM	OPTIONS (optional items marked in yellow)
Mast accumulator	No Yes and not customized