

V1909-01

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# CPD 15/20/30/35L1

## THE FIRST REAL LI-ION FORKLIFT TRUCK

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# ENJOY ALL THE BENEFITS OF EP EQUIPMENT LITHIUM ION TECHNOLOGY WITH THIS MACHINE.



## No Pollution

No more exhaust gases, no toxic diesel particles. Driving diesel trucks under a roof is not allowed and in many parts of the world strict emission legislation is put in place. With a Li-Ion forklift from EP Equipment you are prepared for the future -driving inside and outside without pollution.



## Reduce running costs

Running a diesel forklift can easily cost 25USD every day. With an electric forklift, energy costs can be reduced by up to 80% while the Li-Ion battery will last as long as the truck life, saving on aftermarket battery replacement after few years.



## Maintenance free

Compared to conventional electric counterbalance trucks, the battery is completely maintenance free. The battery is completely sealed and does not produce hazardous gases like a lead acid battery: No water refill, no gases, no special charging rooms needed. The BMS (battery monitoring system) constantly checks the status of each cell and ensures a long lifetime of the battery. With the L1 counterbalance truck, charging gets as easy as refilling a diesel truck. The Li-Ion battery favours opportunity charging during the day and can be topped up by around 7% in a 10 minute break.



## Easy maintenance

The electric fork lift powertrain has 80% less moving parts compared to a combustion engine truck. Therefore the reliability of an electric motor is much higher. With open software and a Zapi controller, trucks from EP Equipment are easy to service and offer low TCO throughout their lifetime.



## Chassis design

Without a combustion engine or the bulky lead-acid battery the L1 Li-Ion forklift was designed with ergonomics and performance in mind. Due to the compact size of the battery, the truck dimensions are optimized to ensure a maximum in stability with significantly higher safety factors than competitors.



## Ergonomics

Due to the completely redesigned chassis, the L1 forklift comes with the largest legroom in the industry, eliminating a key traditional disadvantage associated with electric forklift trucks. Due to the compact battery, drivers have more than sufficient space for their legs, improving operator comfort when working in long shifts.

# TECHNOLOGICAL CHANGES

CPD15/20/30/35L1

## Traditional Electric forklift VS IC trucks

Reasons why you did not buy an electric truck in the past:



Not enough power



Long charging hours



Too expensive



Battery exchange, water refill, charging rooms

**The L1 solves all these problems!**



Worlds first counterbalance truck designed around the Li-Ion Battery



High power to perform as an internal combustion truck



Waterproof design, suitable for outdoor usage



Quick charging:  
10 Minutes - 7%, 2.5 hours - 100%



Largest legroom in the industry to ensure optimised ergonomics

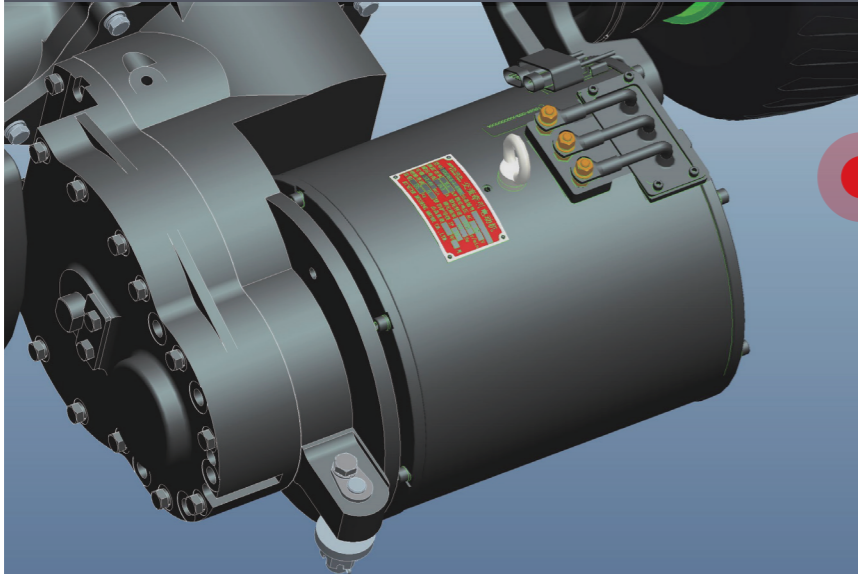
# WATER-PROOF DESIGN

## CPD30/35L1



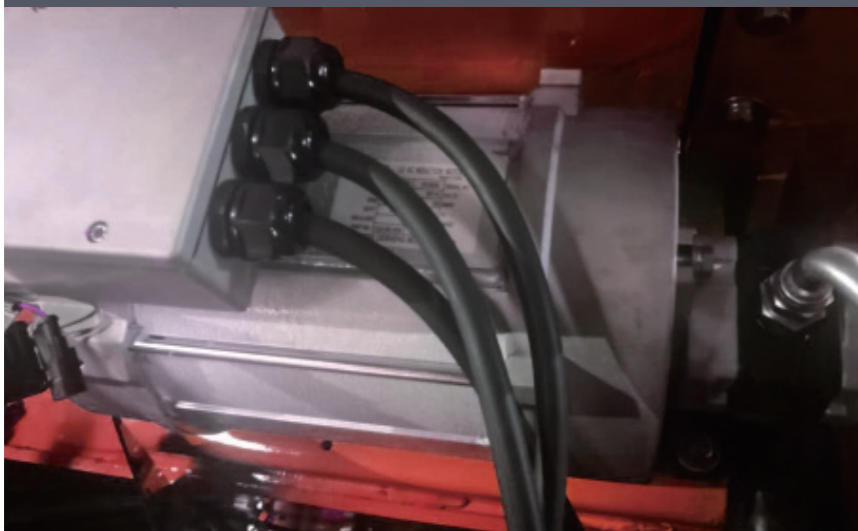
A

IP54 protected driving motor.



B

IP54 protected hydraulic motor.



C

High quality AMP connectors with well glued tail to guarantee water protection.



D

Fully sealed top cover of Li-Ion Battery to ensure water protection.



E

Specially designed battery fan to protect from potential water.

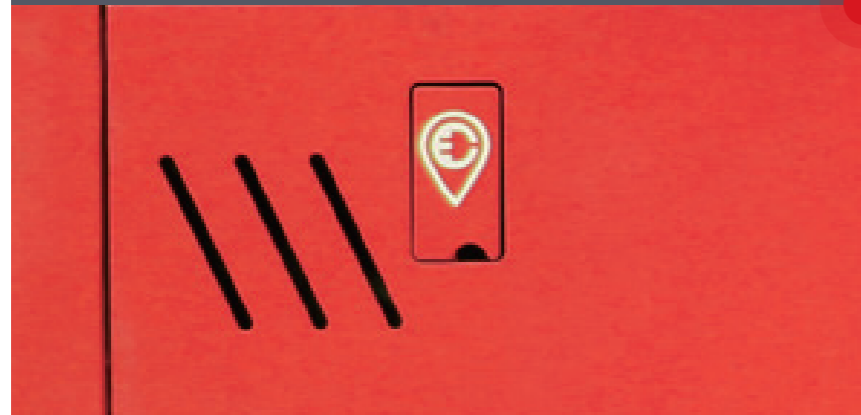


# SPECIAL TRUCK FEATURES

## CPD15/20/30/35L1

### A

Quick charge connector to ensure a simple charging operation during quick breaks. 10 Minutes break = 7% charging.



### B

Largest legroom in the industry to ensure maximum ergonomics for the driver during the shift.



### C

USB charger as standard to charge either mobile phones or other devices.



### D

Large entry and hand rail to ensure easy entry to the truck in a hop-on / hop-off.

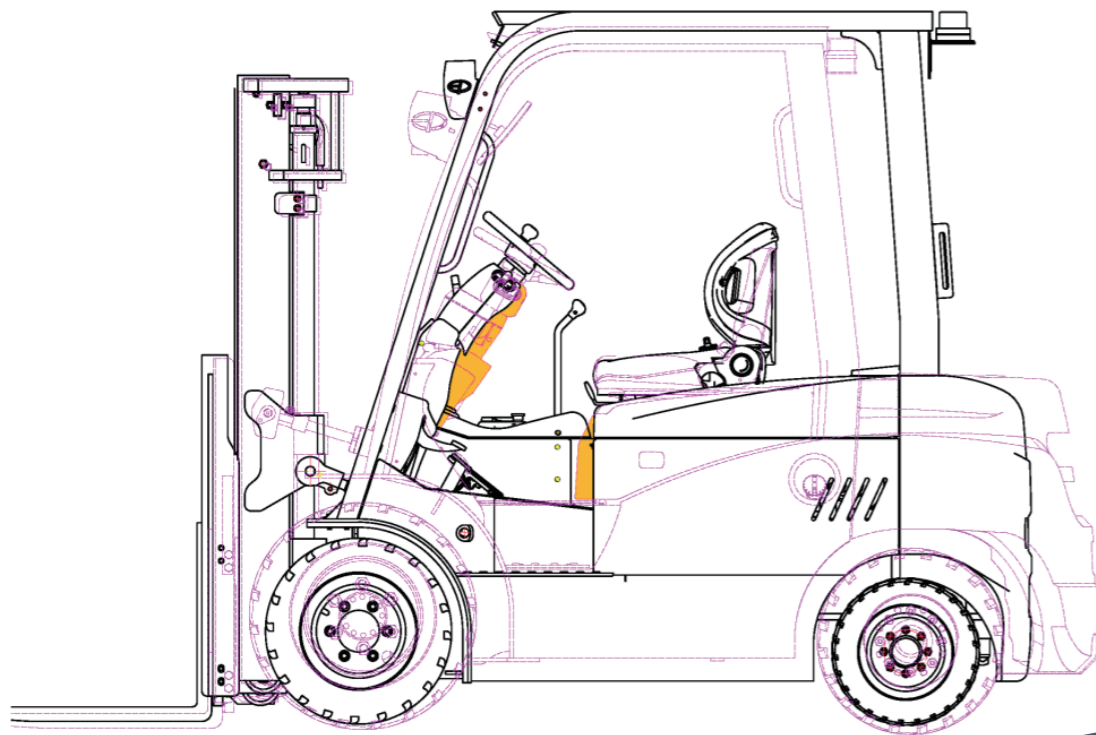


# CONTRAST WITH IC TRUCK

## CPD30/35L1

### More compact than

Using Li-Ion technology, the L1 forklift truck is more compact than traditional IC forklift trucks



### Less energy consumption

The below list is the comparison of 1 hour energy consumption. In the same working condition, we can see that 30L1's energy has saving 80%.

	cycle index	energy consumption	energy consumption per cycle	cost per cycle
CPCD30T8-S4S	51	5.75 L	0.113 L	€ 0.135(1.2€/L)
CPD30L1-S	48	7.81 kWh	0.163 kWh	€ 0.024(0.15€/Kwh)



# CONTRAST WITH IC TRUCK

## CPD30/35L1

### Detail comparison

**1 Less noise:**  
L1 produces less noise emission than traditional Diesel trucks.

**2 Rear handrail:**  
For a safe operation when driving backwards, the L1 is equipped with a horn button on the rear handrail.

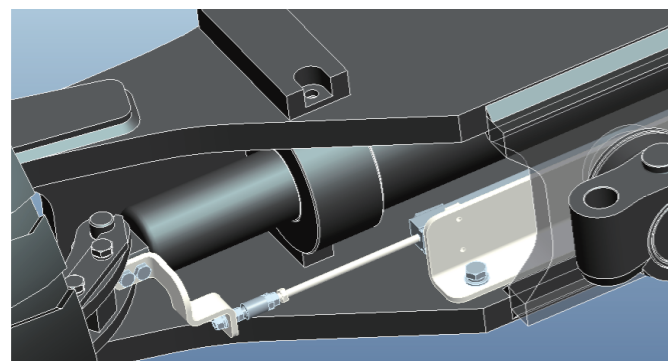


IC truck



CPD30L1

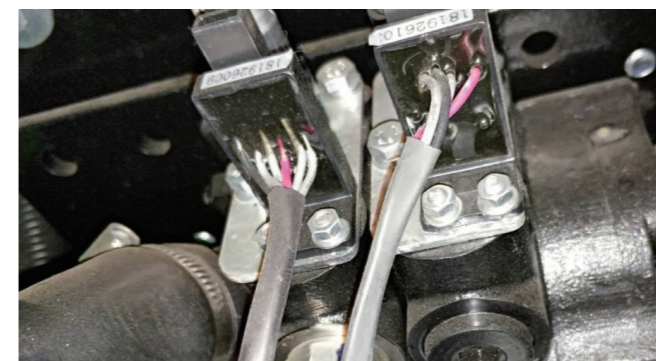
**3 Turning in creep speed:**  
When cornering, the L1 counterbalance truck can go into reduced speed to ensure greater safety



IC truck

CPD30L1

**4 Proportional Lifting:**  
Compared to IC trucks, the L1 forklift has a proportional lift control which makes it more precise and increase the productivity.



IC truck

CPD30L1

**5 USB interface:**  
IC Forklift doesn't have a USB interface



IC truck

CPD30L1

**6 Foot-operated parking:**  
CPD30L1 has foot-operated parking, parking is easier

**7 Lithium battery is standard:**  
maintenance-free, simple usage and quick charging

# CASE STUDY

## CPD15/20/30/35L1

# VDI DATASHEET

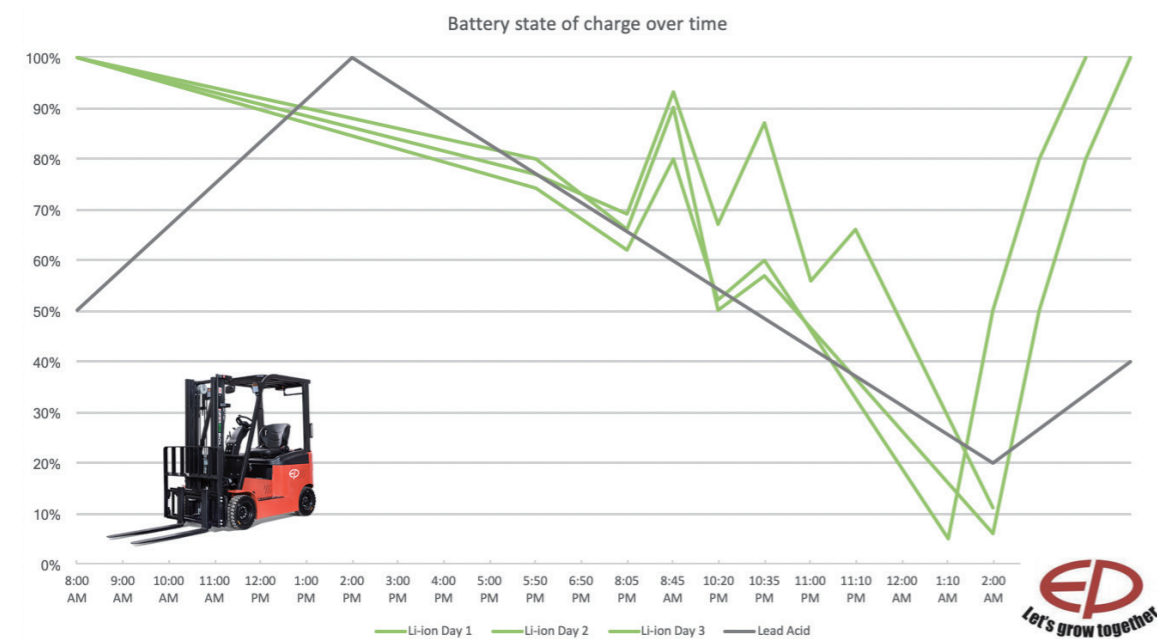
## CPD15/20/30/35L1

With the benefits of Li-Ion technology, the L1 counterbalance truck can run around the clock.

- 10 Minutes break = 7% charging
- No water refill needed
- No battery exchange or long charging cycles needed

### Case Study:

In a logistics depot in Ireland, EP Equipment replaced 15 Diesel / Gas forklift trucks with Li-Ion. Traditional electric forklift trucks were not up to the task, as their charging cycles did not match to the needs of the customer:



Distinguishing mark				EP	EP	EP	EP
1.1	Manufacturer			EP	EP	EP	EP
1.2	Model designation			CPD15L1	CPD20L1	CPD30L1	CPD35L1
1.3	Drive unit			Electrics	Electrics	Electrics	Electrics
1.4	Operator type			Seated	Seated	Seated	Seated
1.5	rated capacity	Q	t	1.5	2	3	3.5
1.6	Load center distance	c	mm	500	500	500	500
1.8	Load distance, centre of drive axle to fork	x	mm	405	405	500	500
1.9	Wheelbase	y	mm	1470	1470	1698	1698
Weight							
2.1	Service weight (include battery)		kg	2640	2950	4830	5360
2.2	Axle loading, laden driving wheels /steering wheels		kg	3615/525	4380/570	6840/990	7750/1110
2.3	Axle loading, unladen driving wheels /steering wheels		kg	1190/1450	1155/1795	2065/2765	2185/3175
Types, Chassis							
3.1	Tyre type, driving wheels /steering wheels			Solid rubber	Solid rubber	Solid rubber	Solid rubber
3.2	Tyre size, driving wheels			18X7-8	200/50-10	23X10-12 (578X228)	23X10-12 (578X228)
3.3	Tyre size, steering wheels			5.00-8	5.00-8	200/50-10 (453X194)	200/50-10 (453X194)
3.5	Wheels, number driving/steering (x=drive wheels)		mm	2x/ 2	2x/ 2	2x/ 2	2x/ 2
3.6	Tread, Driving wheels	b <sub>10</sub>	mm	910	910	1100	1100
3.7	Tread, Steering wheels	b <sub>11</sub>	mm	920	920	1020	1020
Dimensions							
4.1	Tilt of mast/fork carriage forward/backward	α/ β (°)		6/ 11	6/ 11	5/ 9	5/ 9
4.2	Height, mast lowered	h <sub>1</sub>	mm	2080	2080	2210	2210
4.3	Free lift (load backrest)	h <sub>2</sub>	mm	95	95	140	140
4.4	Lift height	h <sub>3</sub>	mm	3000	3000	3000	3000
4.5	Height, mast extended	h <sub>4</sub>	mm	4015	4015	4130	4130
4.7	Height of overhead guard (cabin)	h <sub>6</sub>	mm	2080	2080	2210	2210
4.8	Seat height	h <sub>7</sub>	mm	1050	1050	1120	1120
4.12	Tow center of pin height	h <sub>10</sub>	mm	360	360	380	380
4.19	Overall length	l <sub>1</sub>	mm	3270	3270	3640	3660
4.20	Length to face of forks	l <sub>2</sub>	mm	2200	2200	2570	2590
4.21	Overall width	b <sub>1</sub> / b <sub>2</sub>	mm	1080	1080	1356	1356
4.22	Fork dimensions	s/ e/ l	mm	40×100×1070	40×100×1070	45×125×1070	50×125×1070
4.23	Fork carriage class/type A, B			2A	2A	3A	3A
4.24	Fork carriage width	b <sub>3</sub>	mm	1040	1040	1228	1228
4.31	Ground clearance, laden, below mast	m <sub>1</sub>	mm	110	110	130	130
4.32	The minimum ground clearance of frame	m <sub>2</sub>	mm	105	105	125	125
4.34.1	Aisle width for pallets 1000 × 1200 crossways	A <sub>st</sub>	mm	3685	3685	4090	4100
4.34.2	Aisle width for pallets 800 × 1200 lengthways	A <sub>st</sub>	mm	3885	3885	4290	4300
4.35	Turning radius	Wa	mm	2080	2080	2390	2400
Performance data							
5.1	Travel speed, laden/ unladen		km/ h	10.5/14	10.5/14	15/16	15/16
5.2	Lifting speed, laden/ unladen		m/ s	0.3/ 0.42	0.28/ 0.42	0.4/0.45	0.4/0.45
5.3	Lowering speed, laden/ unladen		m/ s	0.42/ 0.45	0.43/ 0.45	0.44/ 0.48	0.44/ 0.48
5.5	Drawbar pull, laden/unladen		N	—	—	—	—
5.6	Max. drawbar pull, laden/unladen (time)		N	—	10000	—	17800
5.7	Gradeability, laden/unladen		%	—	—	—	—
5.8	Max. gradeability, laden/unladen		%	10.5/14	10.5/14	16/20	16/20
5.10	Service brake type			Electromagnetic	Electromagnetic	Mechanics+ Hydraulic	Mechanics+ Hydraulic
	park brake type			Electromagnetic	Electromagnetic	Mechanical	Mechanical
Electric engine							
6.1	Drive motor rating S2 60 min		kW	6	6	16.6	16.6
6.2	Lift motor rating at S3 15%		kW	7.5	7.5	24	24
6.3	The maximum allowed size battery		mm	—	—	891 X 550 X 680	891X550X680
6.4	Battery voltage/nominal capacity K5			—	—	80V 540AH	80V540AH
6.5	Battery weight		kg	—	—	420	420
	Standard battery pack capacity		V / AH	48V / 360AH	48V / 360AH	80V / 540Ah	80V / 540Ah
	Chemical Material			LFP	LFP	LFP	LFP
	Charger		V / A	48V / 150A	48V / 150A	80V / 200A	80V / 200A
Addition data							
8.1	Type of drive unit			AC	AC	AC	AC
10.5	Steering type			—	—	—	—
10.7	Sound pressure level at the driver's ear		dB (A)	—	—	70	70