

# VLL series

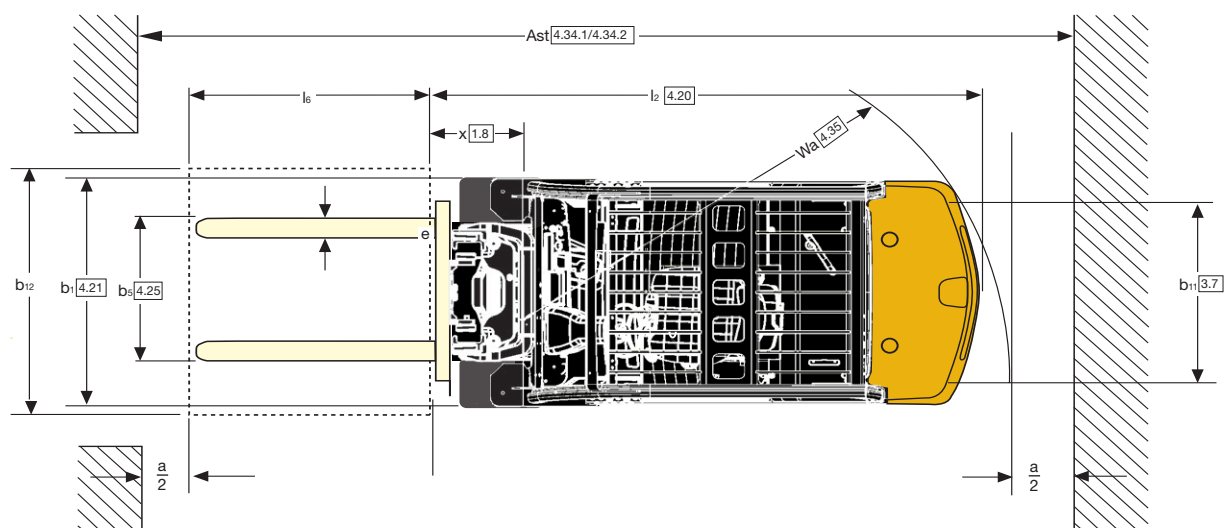
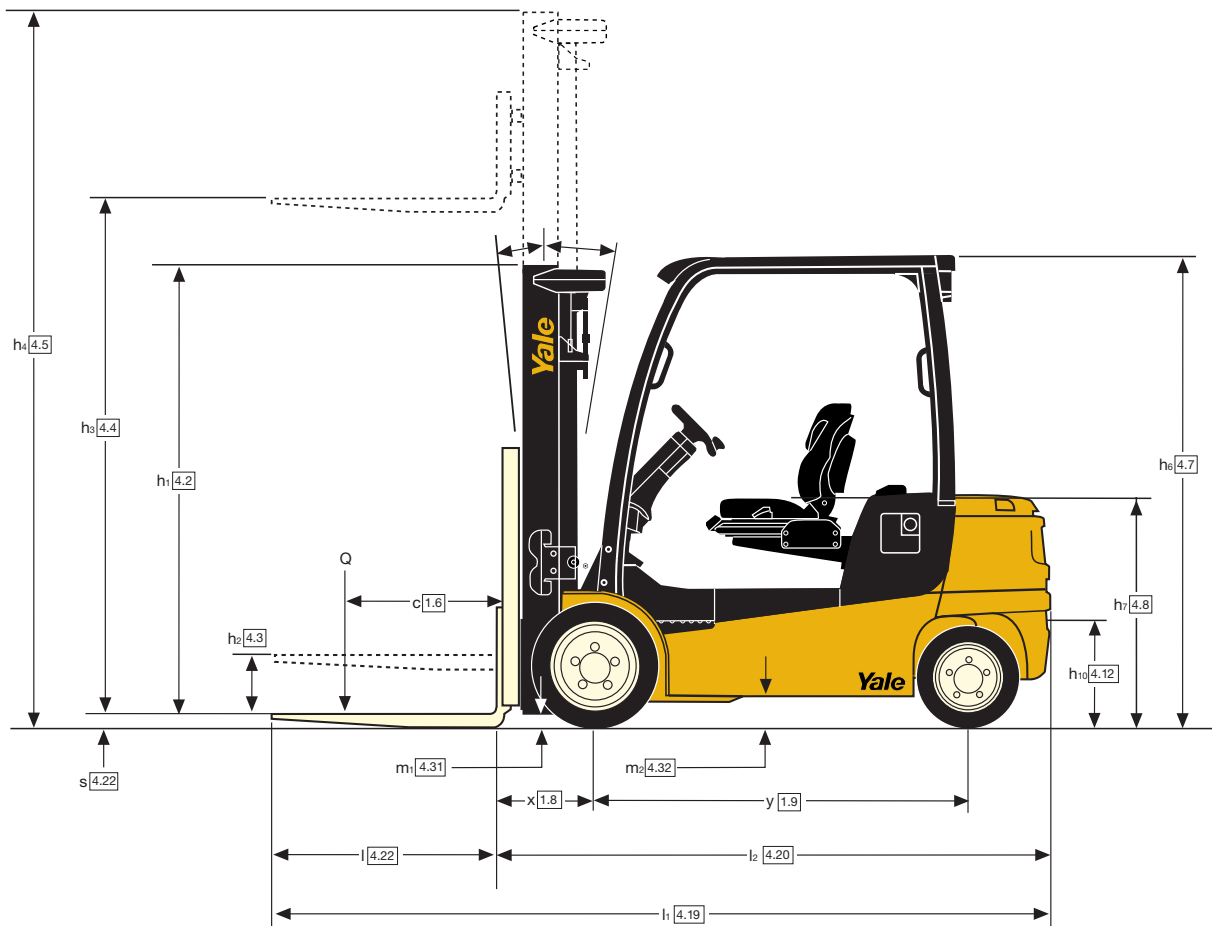
2,500kg / 3,000kg

## Electric forklift trucks



- Integrated Lithium-ion technology
- Operator compartment maximises comfort and convenience
- Indoor and outdoor applications
- Opportunity charging flexibility and zero maintenance

## Truck Dimensions



## VDI 2198 – General Specifications

Distinguishing mark	1.1	Manufacturer (abbreviation)		Yale	Yale	Yale	Yale
	1.2	Manufacturer's type designation		ERP25VLL	ERP30VLL	ERP25VLL	ERP30VLL
		Model		Value	Value	Productivity	Productivity
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas		Electric (battery)	Electric (battery)	Electric (battery)	Electric (battery)
	1.4	Operator type: hand, pedestrian, standing, seated, order-picker		Seated	Seated	Seated	Seated
	1.5	Rated capacity/rated load	Q (t)	2500	3000	2500	3000
	1.6	Load centre distance	c (mm)	500	500	500	500
	1.8	Load distance, centre of drive axle to fork <sup>(1)</sup>	x (mm)	419	431	419	431
	1.9	Wheelbase	y (mm)	1750	1750	1750	1750
Weights	2.1	Service weight (max. battery)	kg	4280	4710	4280	4710
	2.2	Axle loading laden, front/rear (max. battery)	kg	5957 / 821	7596 / 610	5957 / 821	7596 / 610
	2.3	Axle loading unladen, front/rear (max. battery)	kg	2144 / 2135	2233 / 2473	2144 / 2135	2233 / 2473
Tyres/chassis	3.1	Tyres: P = pneumatic, V = cushion, SE = superelastic		SE	SE	SE	SE
	3.2	Tyre size, front	ø mm x mm	23 X 10 -12	23 X 10 - 12	23 X 10 - 12	23 X 10 - 12
	3.3	Tyre size, rear	ø mm x mm	18 X 7 - 8	18 X 7 - 8	18 X 7 - 8	18 X 7 - 8
	3.5	Wheels, number front/rear (x = driven wheels)		2X / 2	2X / 2	2X / 2	2X / 2
	3.6	Tread, front	b10 (mm)	938 / 1054	938 / 1054	938 / 1054	938 / 1054
	3.7	Tread, rear	b11 (mm)	992	992	992	992
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	a/b (°)	5 / 5	5 / 5	5 / 5	5 / 5
	4.2	Height, mast lowered	h1 (mm)	2192	2192	2192	2192
	4.3	Free lift <sup>(10)</sup>	h2 (mm)	100	100	100	100
	4.4	Lift height <sup>(2)</sup>	h3 (mm)	3350	3155	3350	3155
	4.5	Height, mast extended <sup>(3)</sup>	h4 (mm)	3960	3865	3960	3865
	4.7	Height of overhead guard <sup>(4)</sup>	h6 (mm)	2193	2193	2193	2193
	4.8	Seat height relating to SIP/stand height <sup>(5)</sup>	h7 (mm)	984	984	984	984
	4.12	Coupling height	h10 (mm)	262	262	262	262
	4.19	Overall length	l1 (mm)	3480	3570	3480	3570
	4.20	Length to face of forks	l2 (mm)	2480	2570	2480	2570
	4.21	Overall width, standard/wide tread	b1/b2 (mm)	1173 / 1289	1173 / 1289	1173 / 1289	1173 / 1289
	4.22	Fork dimensions DIN ISO 2331	s/e/l (mm)	40 x 100 x 1000	50 x 120 x 1000	40 x 100 x 1000	50 x 120 x 1000
	4.23	Fork carriage DIN 15173. Class, A/B		2A	3A	2A	3A
	4.24	Fork carriage width <sup>(6)</sup>	b3 (mm)	1067	1067	1067	1067
	4.31	Ground clearance, laden, below mast	m1 (mm)	98	98	98	98
	4.32	Ground clearance, centre of wheelbase	m2 (mm)	137	137	137	137
	4.34.1	Aisle width for pallets 1000 x 1200 crossways	Ast (mm)	3750	3828	3750	3828
	4.34.2	Aisle width for pallets 800 x 1200 lengthways	Ast (mm)	3906	3984	3906	3984
Performance data	4.35	Turning radius	Wa (mm)	2073	2139	2073	2139
	4.36	Inner turning radius	b13 (mm)	189	189	189	189
	5.1	Travel speed laden/unladen <sup>(7)</sup>	km/h	18.0 / 18.0	17.0 / 18.0	21.0 / 21.0	19.5 / 21.0
	5.2	Lift speed, laden/unladen	m/s	0.38 / 0.63	0.33 / 0.59	0.49 / 0.72	0.42 / 0.63
	5.3	Lowering speed, laden/unladen	m/s	0.57 / 0.51	0.56 / 0.46	0.57 / 0.51	0.56 / 0.46
	5.5	Drawbar pull, laden/unladen, 60 minute rating	N	5591 / 5726	5441 / 5588	6037 / 6185	5877 / 6035
	5.6	Maximum drawbar pull, laden/unladen, 5 minute rating	N	18451 / 18897	17956 / 18441	19927 / 20409	19393 / 19916
	5.7	Gradeability laden/unladen, 30 minute rating,	%	9 / 13	8 / 12	10 / 14	9 / 13
Electric engine	5.8	Maximum gradeability, laden/unladen, 5 minute rating,	%	24 / 35	22 / 34	26 / 38	24 / 37
	5.9	Acceleration time, laden/unladen <sup>(7)</sup>	s	4.45 / 4.11	4.56 / 4.18	4.04 / 3.71	4.14 / 3.78
	5.10	Service brake		Hydraulic	Hydraulic	Hydraulic	Hydraulic
	6.1	Drive motor rating, (S2 60 minute rating)	kW	2x 10.0	2x 10.0	2x 10.0	2x 10.0
	6.2	Lift motor rating, (S3 15% rating)	kW	16.0	16.0	16.0	16.0
	6.3	Battery according to DIN 43531/35/36 A, B, C, no		No	No	No	No
	6.4	Battery voltage/capacity at 5hr rate	(V)/(Ah)	80 / 360	80 / 360	80 / 360	80 / 360
	6.5	Battery weight (min/max)	kg	362 / 394	362 / 394	362 / 394	362 / 394
	6.6	Energy consumption according to VDI cycle <sup>(7)</sup>	kWh/h @Nr of Cycles	7.89	8.66	8.86	9.74
Additional data	8.1	Type of drive unit		AC Electronic	AC Electronic	AC Electronic	AC Electronic
	10.1	Operating pressure for attachments	bar	155	155	155	155
	10.2	Oil flow for attachments, manual hydraulics <sup>(8)</sup>		20 - 40	20 - 40	20 - 40	20 - 40
	10.7	Sound pressure level at the driver's seat <sup>(9)</sup>	dB(A)	67	67	67	67
	10.8	Towing coupling, type DIN		Pin	Pin	Pin	Pin

<sup>(1)</sup> Add 34mm for ISS Carriage up to and including 2500kg capacity. Add 36mm for ISS Carriage for greater than 2500kg capacity.

<sup>(2)</sup> Measurement from ground to bottom of forks.

<sup>(3)</sup> Add 666mm with Load Backrest up to and including 2500kg. Add 583 with Load Backrest for greater than 2500kg capacity.

<sup>(4)</sup> h6 subject to +/- 5 mm tolerance.

Add 20mm with cab option. Add 104mm for battery side removal option. Add 124mm for battery side removal with cab option.

<sup>(5)</sup> Full Suspension (FLM80) specified, compressed condition. Add 40mm for nominal position. Add 104mm for battery side removal option.

<sup>(6)</sup> Add 28mm with load backrest

<sup>(7)</sup> Standard performance, extended shift function turned on.

<sup>(8)</sup> Maximum flow set through dash display.

<sup>(9)</sup> LPAZ, measured according to the test cycles and based on the weighting values contained in EN12053.

<sup>(10)</sup> 2LFL masts only.

**Specification sheet based on:** Standard seat, Standard Overhead Guard, Standard 1067mm wide carriage, Extended shift on with DIN battery configuration, 2LFL mast.

**All values are nominal values and they are subject to tolerances. For further information, please contact the manufacturer.**

**Yale products might be subject to change without notice.**

**Lift trucks illustrated may feature optional equipment.**

**Values may vary with alternative configurations.**

# VLL series

Models: VLL25, VLL30



## ERP 25VLL Mast details and capacity ratings (kg) - superelastic tyres

Model							ERP 25VLL					
Tyre size, front							23 x 10-12					
Overall width, front							1173mm					
Mast	h <sub>1</sub> (mm)	h <sub>2+s</sub> (mm)	h <sub>3+s</sub> (mm)	h <sub>4</sub> (mm)	Tilt		Forks			Integral sideshift		
							Load centre (kg)			Load centre (kg)		
					F	B	500	600	700	500	600	700
2 Stage LFL	2195	140	3390	3956	5	5	2500	2270	2170	2500	2270	2090
	2395	140	3790	4356	5	5	2500	2270	2170	2500	2270	2090
	2745	140	4330	4896	5	5	2500	2270	2160	2500	2270	2080
	2995	140	4830	5396	5	5	2500	2270	2150	2500	2270	2070
2 Stage FFL	2195	1625	3400	3966	5	5	2500	2270	2170	2500	2270	2090
	2395	1825	3800	4366	5	5	2500	2270	2160	2500	2270	2090
	2745	2175	4420	4986	5	5	2500	2270	2150	2500	2270	2070
3 Stage FFL	2145	1595	4950	5496	5	5	2500	2270	2140	2500	2250	2060
	2395	1845	5550	6096	5	5	2410	2190	2050	2380	2150	1960
	2595	2045	6000	6546	5	5	2310	2100	1960	2290	2070	1890

All capacities calculated with 1000mm long forks and are less load backrest.

## ERP 30VLL Mast details and capacity ratings (kg) - superelastic tyres

Model							ERP 30VLL					
Tyre size, front							23 x 10-12					
Overall width, front							1173mm					
Mast	h <sub>1</sub> (mm)	h <sub>2+s</sub> (mm)	h <sub>3+s</sub> (mm)	h <sub>4</sub> (mm)	Tilt		Forks			Integral sideshift		
							Load centre (kg)			Load centre (kg)		
					F	B	500	600	700	500	600	700
2 Stage LFL	2195	145	3200	3861	5	5	3000	2720	2550	2960	2680	2440
	2395	145	3600	4261	5	5	3000	2720	2540	2950	2670	2440
	2745	145	4100	4761	5	5	3000	2720	2530	2940	2660	2430
	2995	145	4600	5261	5	5	2920	2650	2460	2850	2580	2360
2 Stage FFL	2195	1535	3205	3862	5	5	3000	2720	2550	2960	2680	2440
	2595	1935	3905	4562	5	5	3000	2720	2530	2940	2660	2430
	2845	2185	4405	5062	5	5	2960	2680	2500	2900	2620	2390
3 Stage FFL	2145	1500	4610	5252	5	5	2970	2690	2500	2900	2620	2390
	2295	1650	4910	5552	5	5	2900	2630	2440	2830	2560	2340
	2395	1750	5210	5852	5	5	2840	2570	2380	2760	2500	2280
	2645	2000	5810	6452	5	5	2690	2440	2250	2600	2350	2150

All capacities calculated with 1000mm long forks and are less load backrest.

The VLL is at the forefront of innovation, engineered around a fully integrated and space-saving, lithium-ion battery. The design helps free space in the operator compartment maximizing comfort and convenience for enhanced productivity.

### Lithium-ion power

A single Li-ion battery can support truck use over 2 or 3 shifts offering convenient opportunity charging, with no memory effects, negating the need for extra battery sets.

No battery exchange process required, resulting in more uptime, Li-ion batteries charge faster than traditional batteries.

### Ergonomics

The VLL is designed for optimum operator comfort with an open space design under

operator seat, providing operators with additional foot space.

The low seat and floor plate allows easy ingress and egress from the truck, the low center of gravity enhances drive quality, improving truck handling in corners.

The ergonomically designed gas spring assisted steering column has infinite forward and reverse adjustment through 26°, with 5mm telescopic adjustment. Synchronised steering also features steer column memory tilt (option).

### Steering

A 16kW (Value) or 24kW (Productivity) AC motor drives a pump providing oil pressure for the hydraulic pump and steering, eliminating the need for a separate steering motor and

pump. During cornering the speed of the drive motors is continuously adjusted independently by the traction controller ensuring smooth operation.

The truck features a state-of-the-art extended steer-axle that has increased articulation of the steer wheels, allowing it to turn in smaller spaces than a conventional 4-wheel steer-axle.

### Continuous Stability Enhancement (CSE)

This mechanical system uses gravity to optimize the design geometry of the steer axle. It reduces lean by limiting the articulation and does not compromise the trucks ability to operate over poor ground conditions or traverse obstacles. It is also 100% maintenance free.

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**Safety:** This truck conforms to the current EU requirements.

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