

VG Series

Electric Forklift Trucks with AC Technology

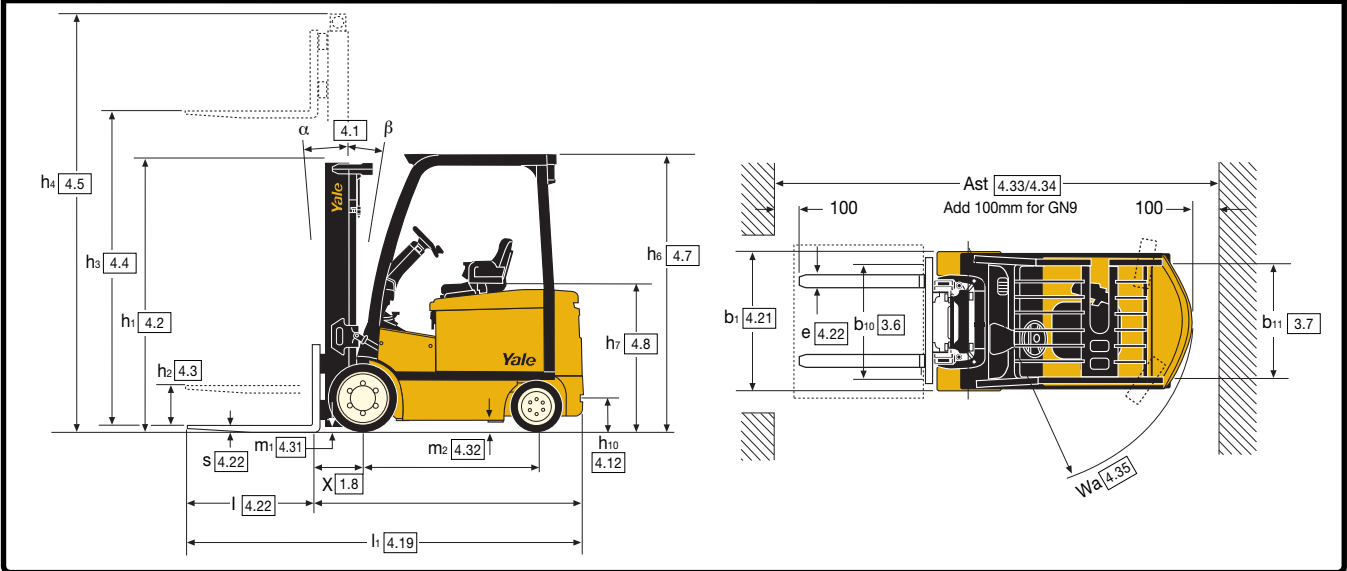
2,200kg, 2,500kg, 3,000kg, 3,200kg and 3,500kg



- YaleStop automatic park brake eliminates uncontrolled roll-back on ramps
- Auto deceleration
- CANbus technology
- High-performance AC motor technology
- Continuous Stability Enhancement
- eLo and HiP performance settings

Yale 
People. Products. Productivity.

Truck Dimensions



ERC22 VG SWB/MWB mast details and capacity ratings (kg) - Cushion tyres

Model		ERC 22 VG SWB										ERC 22 VG MWB						
Tyres		21x7x15										21x7x15						
Width across tyres		1070mm										1070mm						
Masts	OAH h1	FFH h2+s	MFH h3+s	h4	Tilt		Forks Load Centre			Integral Sideshift Load Centre			Forks Load Centre			Integral Sideshift Load Centre		
					F	B	500	600	700	500	600	700	500	600	700	500	600	700
2 Stage LFL (V)	2235	140	3492	4049 ⁽¹⁾	5	5	2200	2030	1840	2160	1950	1770	2200	2030	1840	2160	1950	1770
	2635	140	4132	4689 ⁽¹⁾	5	5	2200	2020	1830	2150	1940	1760	2200	2020	1830	2150	1940	1760
	2985	140	4832	5389 ⁽¹⁾	5	5	2120	1940	1760	2070	1860	1700	2130	1950	1770	2070	1870	1700
2 Stage FFL (F)	2235	1678 ⁽²⁾	3502	4059 ⁽¹⁾	5	5	2200	2030	1840	2160	1950	1770	2200	2030	1840	2160	1950	1770
3 Stage FFL (E)	2235	1696 ⁽⁴⁾	5100	5639 ⁽⁵⁾	5	5	2080	1900	1720	2020	1820	1660	2080	1900	1730	2030	1830	1660
	2385	1846 ⁽⁴⁾	5550	6089 ⁽⁵⁾	5	5	2000	1820	1650	1940	1750	1590	2010	1830	1660	1950	1750	1600
	2585	2046 ⁽⁴⁾	6000	6539 ⁽⁵⁾	5	5	1920	1740	1580	1850	1670	1520	1930	1750	1580	1860	1680	1520

ERC25 VG SWB/MWB mast details and capacity ratings (kg) - Cushion tyres

Model		ERC 25 VG SWB										ERC 25 VG MWB						
Tyres		21x7x15										21x7x15						
Width across tyres		1070mm										1070mm						
Masts	OAH h1	FFH h2+s	MFH h3+s	h4	Tilt		Forks Load Centre			Integral Sideshift Load Centre			Forks Load Centre			Integral Sideshift Load Centre		
					F	B	500	600	700	500	600	700	500	600	700	500	600	700
2 Stage LFL (V)	2235	140	3492	4049 ⁽¹⁾	5	5	2500	2300	2090	2450	2210	2010	2500	2300	2090	2450	2210	2010
	2635	140	4132	4689 ⁽¹⁾	5	5	2500	2290	2080	2440	2200	2000	2500	2290	2080	2440	2200	2000
	2985	140	4832	5389 ⁽¹⁾	5	5	2420	2210	2000	2350	2120	1930	2420	2210	2000	2350	2120	1930
2 Stage FFL (F)	2235	1678 ⁽²⁾	3502	4059 ⁽¹⁾	5	5	2500	2300	2090	2450	2210	2010	2500	2300	2090	2450	2210	2010
3 Stage FFL (E)	2235	1696 ⁽⁴⁾	5100	5639 ⁽⁵⁾	5	5	2370	2160	1960	2300	2080	1890	2370	2160	1960	2300	2070	1890
	2385	1846 ⁽⁴⁾	5550	6089 ⁽⁵⁾	5	5	2290	2080	1890	2220	2000	1820	2280	2080	1880	2210	1990	1810
	2585	2046 ⁽⁴⁾	6000	6539 ⁽⁵⁾	5	5	2220*	1990*	1800*	2120*	1910*	1740*	2190	1980	1800	2110	1900	1730

ERC30 VG MWB, 32 VG LWB, 35 VG LWB mast details and capacity ratings (kg) - Cushion tyres

Model		ERC 30 VG MWB						ERC 32 VG LWB						ERC 35 VG LWB										
Tyres		21x8x15						21x8x15						21x9x15										
Width across tyres		1108mm						1132mm						1158mm										
Masts	OAH h1	FFH h2+s	MFH h3+s	h4	Tilt		Forks Load Centre			Integral Sideshift Load Centre			Forks Load Centre			Integral Sideshift Load Centre								
					F	B	500	600	700	500	600	700	500	600	700	500	600	700						
2 Stage LFL (V)	2235	150	3309	3954 ⁽⁶⁾	5	5	3000	2760	2510	2930	2640	2410	3200	2940	2670	3120	2810	2560	3500	3210	2920	3410	3070	2800
	2535	150	3709	4354 ⁽⁶⁾	5	5	3000	2760	2500	2920	2640	2400	3200	2940	2670	3110	2810	2560	3500	3210	2910	3400	3070	2800
	2785	150	4209	4854 ⁽⁶⁾	5	5	3000	2750	2490	2910	2630	2390	3200	2930	2660	3100	2800	2550	3500	3200	2900	3390	3060	2790
2 Stage FFL (F)	2235	1590 ⁽⁶⁾	3310	3955 ⁽⁶⁾	5	5	3000	2760	2510	2930	2640	2410	3200	2940	2670	3120	2810	2560	3500	3210	2920	3410	3070	2800
3 Stage FFL (E)	2235	1608 ⁽⁸⁾	4768	5395 ⁽⁷⁾	5	5	2890	2650	2410	2800	2530	2310	3090	2820	2570	2990	2700	2460	3390	3090	2810	3280	2960	2700
	2385	1758 ⁽⁸⁾	5218	5845 ⁽⁷⁾	5	5	2810	2560	2330	2710	2450	2230	3000	2740	2490	2900	2620	2390	3290	3000	2720	3180	2870	2620
	2735	2108 ⁽⁸⁾	5968	6595 ⁽⁷⁾	5	5	2650*	2400*	2180*	2540*	2300*	2090*	2840*	2570*	2340*	2720*	2460*	2240*	3120*	2830*	2570*	3000*	2710*	2470*

* Wide tread wheels/tyres must be specified.
⁽¹⁾ Add 666mm with load backrest extension.
⁽²⁾ Deduct 666mm with load backrest extension.

⁽³⁾ Add 684mm with load backrest extension.
⁽⁴⁾ Deduct 684mm with load backrest extension.
⁽⁵⁾ Add 583mm with load backrest extension.

⁽⁶⁾ Deduct 583mm with load backrest extension.
⁽⁷⁾ Add 601mm with load backrest extension.
⁽⁸⁾ Deduct 601mm with load backrest extension.

VDI 2198 - General Specifications

		Yale	Yale	Yale	Yale	Yale	Yale	Yale	
Characteristics	1.1 Manufacturer		Yale	Yale	Yale	Yale	Yale	Yale	
	1.2 Model designation		VG22 SWB	VG22 MWB	VG25 SWB	VG25 MWB	VG30 MWB	VG32 LWB	VG35 LWB
	1.3 Drive: electric		Battery	Battery	Battery	Battery	Battery	Battery	Battery
	1.4 Operation		Seated	Seated	Seated	Seated	Seated	Seated	Seated
	1.5 Load capacity	Q (t)	2200	2200	2500	2500	3000	3200	3500
	1.6 Load centre	c (mm)	500	500	500	500	500	500	500
	1.8 Load distance	x (mm)	377	377	377	377	387	387	387
	1.9 Wheelbase	y (mm)	1230	1377	1230	1377	1377	1545	1545
	Weights	2.1 Unladen weight (max. battery)	kg	4400	4570	4590	4570	5050	5140
2.2 Axle loading laden, front/rear (max. battery)		kg	5494 / 1105	5540 / 1226	5962 / 1223	6031 / 1035	6913 / 1135	7219 / 1112	7671 / 1170
2.3 Axle loading unladen, front/rear (max. battery)		kg	1728 / 2672	1941 / 2626	1681 / 2903	1941 / 2626	1978 / 3069	2180 / 2951	2159 / 3181
Wheels & Tyres	3.1 Tyres: P=pneumatic, C=cushion, SC=supercushion		C	C	C	C	C	C	C
	3.2 Tyre size, front		21 x 8 x 15	21x8x15	21x8x15	21x8x15	21x8x15	21x8x15	21x9x15
	3.3 Tyre size, rear		16 x 6 x 10.5	16 x 6 x 10.5	16 x 6 x 10.5	16 x 6 x 10.5	16 x 6 x 10.5	16 x 6 x 10.5	16 x 7 x 10.5
	3.5 Number of wheels, front/rear (X = driven)		2X / 2	2X / 2	2X / 2	2X / 2	2X / 2	2X / 2	2X / 2
	3.6 Track width, front.	b ₁₀ (mm)	905 / 1039	905 / 1039	905 / 1039	905 / 1039	905 / 1039	905 / 1039	929 / 1013
	3.7 Track width, rear	b ₁₁ (mm)	940	940	940	940	940	940	915
	Dimensions	4.1 Mast tilt, forward α /back β	degrees	5 / 5	5 / 5	5 / 5	5 / 5	5 / 5	5 / 5
4.2 Height of mast, lowered		h ₁ (mm)	2235	2235	2235	2235	2235	2235	2235
4.3 Free lift ▼		h ₂ (mm)	100	100	100	100	100	100	100
4.4 Lift height ▼		h ₃ (mm)	3452	3452	3452	3452	3259	3259	3259
4.5 Height of mast, extended +		h ₄ (mm)	4049	4049	4049	4049	3954	3954	3954
4.7 Height to top of overhead guard ○		h ₆ (mm)	2248	2248	2248	2248	2248	2248	2248
4.8 Seat height ✕		h ₇ (mm)	1217	1217	1217	1217	1217	1217	1217
4.12 Towing coupling height		h ₁₀ (mm)	280	280	280	280	280	280	280
4.19 Overall length		l ₁ (mm)	3003	3027	3027	3130	3184	3328	3352
4.20 Length to face of forks		l ₂ (mm)	2003	2027	2027	2130	2184	2328	2352
4.21 Overall width		b ₁ /b ₂ (mm)	1108 / 1242	1108 / 1242	1108 / 1242	1108 / 1242	1108 / 1242	1108 / 1242	1158 / 1242
4.22 Fork dimensions		s/e/l (mm)	100 / 40 / 1000	100 / 40 / 1000	100 / 40 / 1000	100 / 40 / 1000	125 / 50 / 1000	125 / 50 / 1000	125 / 50 / 1000
4.23 Fork carriage DIN 15173. Class, A/B			2A	2A	2A	2A	3A	3A	3A
4.24 Fork carriage width ▶		b ₃ (mm)	977	977	977	977	977	977	977
4.31 Ground clearance under mast, laden		m ₁ (mm)	85	85	85	85	85	85	85
4.32 Ground clearance at centre of wheelbase		m ₂ (mm)	92	92	92	92	92	92	92
4.33 Aisle width with pallets 1000 long x 1200 wide		Ast (mm)	3316	3462	3338	3462	3503	3661	3681
4.34 Aisle width with pallets 800 wide x 1200 long		Ast (mm)	3512	3661	3534	3661	3702	3861	3881
4.35 Outer turning radius		Wa (mm)	1735	1757	1757	1884	1915	2074	2074
4.36 Inner turning radius		b ₁₃ (mm)	501	501	501	561	561	630	630
Performance	5.1 Travel speed laden/unladen	Kmh	19.8 / 19.7	19.8 / 19.7	19.9 / 19.7	19.9 / 19.7	19.4 / 19.7	19.0 / 19.7	19.1 / 19.7
	5.2 Lifting speed laden/unladen	m/sec	0.52 / 0.72	0.52 / 0.72	0.52 / 0.72	0.49 / 0.72	0.42 / 0.63	0.40 / 0.63	0.37 / 0.63
	5.3 Lowering speed laden/unladen	m/sec	0.57 / 0.51	0.57 / 0.51	0.57 / 0.51	0.57 / 0.51	0.56 / 0.46	0.57 / 0.46	0.58 / 0.46
	5.5 Drawbar pull laden/unladen, 60 min. rating	N	13460 / 14271	13460 / 14271	13315 / 14271	13315 / 14271	12953 / 14150	12837 / 14129	12643 / 14078
	5.6 Max. drawbar pull laden/unladen, 5 min. rating	N	22100 / 16785	22100 / 16785	22914 / 16785	21914 / 16785	21485 / 17272	21342 / 18165	21108 / 18651
	5.7 Gradeability laden/unladen, 30 min. rating	%	20 / 32	20 / 32	19 / 32	19 / 32	16 / 29	16 / 28	14 / 27
	5.8 Max. gradeability laden/unladen, 5 min. rating	%	34 / 39	34 / 39	33 / 39	33 / 39	28 / 36	26 / 37	25 / 37
	5.9 Acceleration time laden/unladen	sec	4.9 / 4.9	4.9 / 4.9	4.9 / 4.9	4.9 / 4.9	4.9 / 4.9	4.9 / 4.9	4.9 / 4.9
	5.10 Service brake		Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic
	Motor	6.1 Drive motor output, (S2 60 minute rating)	kW	23.6	23.6	23.6	23.6	23.6	23.6
6.2 Lifting motor, (S3 15% rating)		kW	24.0	24.0	24.0	24.0	24.0	24.0	24.0
6.3 Battery DIN 43531/35/36 A, B, C, no			No	No	No	No	No	No	No
6.4 Battery voltage/capacity at 5hr rate		V/Ah	80 / 375	80 / 450	80 / 375	80 / 450	80 / 450	80 / 600	80 / 600
6.5 Battery weight (min/max)		kg	1050 / 1500	1320 / 1770	1050 / 1500	1320 / 1770	1320 / 1770	1550 / 2000	1550 / 2000
6.6 Power consumption in accordance with VDI cycle		kWh/h	6.31	6.31	6.31	6.31	6.70	7.89	8.58
Other	8.1 Drive control		AC Electronic	AC Electronic	AC Electronic	AC Electronic	AC Electronic	AC Electronic	AC Electronic
	8.2 Working pressure for attachments	bar	155	155	155	155	155	155	155
	8.3 Oil flow for attachments, manual hydraulics †	l/min	20-40	20-40	20-40	20-40	20-40	20-40	20-40
	8.4 Average noise level at operator's ear ★	dB (A)	67	67	67	67	67	67	67
	8.5 Towing coupling type		Pin	Pin	Pin	Pin	Pin	Pin	Pin

★ L₉₀ measured according to the test cycles and based on the weighting values contained in EN12053.

† Maximum flow set through dash display.

▼ Bottom of forks.

✕ Full Suspension specified. Compressed condition, add 40mm for nominal position.

+ Without load backrest.

○ Add 43mm with load backrest. h₆ subject to +/- 5mm tolerance.

Specification Data Sheet information is based on lift trucks with: Standard seat and overhead guard, standard carriage and 1000mm forks. 2 stage LFL mast (ERC 22-25VG 3490mm, ERC 30-55VG 3310mm). Extended shift performance setting 'On'.

VG Series

Models: 22VG SWB/MWB, 25VG SWB/MWB, 30VG MWB, 32VG LWB, 35VG LWB

AC Technology

Yale 23.6kW AC technology Class H traction motors with transistor controller are suitable for the most arduous applications. Smooth forward and reverse directional changes provide seamless driving action. In the high-performance or 'HiP' setting, AC technology provides increased speed and acceleration and increased speed on gradients, even when fully laden.

Brakes

The truck is equipped with an automatic park brake that is set by the control system, which means the brake is always applied whenever the truck is not moving and traction has not been requested. The electro magnetically controlled release of the park brake occurs when the accelerator pedal is activated. This provides increased controllability in ramp applications.

Steering

The 24kW AC motor drives a pump which provides oil pressure for all the hydraulic functions and steering, eliminating the need for a separate steering motor and pump. The gas spring assisted steering column is mounted on the truck's cowl providing unrestricted floor space. It is infinitely adjustable in a range of 26° and is contoured for easy on/off access.

Telescopic adjustment of 75mm, memory tilt and synchronized steering are available as an option.

The continuous Stability Enhancement System is a passive mechanical system that optimizes steer axle geometry to reduce truck lean by limiting articulation. Transmission of surface shocks and vibrations to the operator and load when travelling over uneven ground conditions are also reduced. The system is 100% maintenance free.

Performance modes

The Yale VG series of lift trucks feature an 'eLo' energy saving setting (accessible via the dash display with a service password), which provides exceptional energy efficient performance for continuous operation over longer periods, increasing the time between battery charges. The 'HiP' high performance setting delivers higher top speeds and acceleration for the most demanding productivity applications.

The performance of the VG series can be further tailored via the enhanced 'heads up' display. The requirements of the application or the operator's preferences can be set by selecting one of the 4 performance modes. Selecting 'Mode 4' provides maximum speed and acceleration whilst 'Mode 1' is ideal for

more precise maneuvering. Yale trained service technicians can easily adjust the top speed and acceleration.

Ergonomics

The VG series is designed for optimum operator comfort. The operator is positioned ergonomically for maximum safety, comfort, visibility and ease of operation. Whole body vibration (WBV) transmitted to the operator is reduced by the full suspension seat that is easily adjusted for weight and stature and has 80mm of suspension travel. This provides the operator with the most comfortable working environment reducing fatigue and increasing productivity. A swivel seat option provides a superior reverse driving position.

A low intermediate step with anti-slip mesh, clear foot-well and generous floor-space with nonslip rubber floor mat provide easy 'on' and 'off' access from both sides of the truck.

Front and rear (with horn) operator grab handles aid entry and driving in the reverse direction.

Seat side contoured manual levers are standard. A 'Forward/Reverse' direction switch is integrated into the hoist lever and an emergency stop button positioned into the manual lever console for easy application.

The Accutouch mini-lever module (MLM) provides the best in intuitive and relaxed operation of all control functions. A cushioned arm and palm rest and splayed mini levers for fingertip control help reduce RSI and increase productivity. A 'Forward/Reverse' direction switch with detent, emergency stop button and horn are all positioned on the MLM within easy reach of the operator. Travel direction is displayed on the 'heads up' display.

'Return to set tilt' and '4th function with clamp' button options are integrated into the MLM to alleviate operator fatigue when aligning forks for load drop and retrieval.

The 'heads up display' is located on the overhead guard to the top right hand side of the operator. This frees up the operators field of vision for more productive load handling and allows the trucks status and critical functions to be easily checked. These include:

- Battery charge condition
- Hours worked
- Direction of travel
- Steer wheels position (synchronised steering option only)
- Performance setting
- Motor temperature
- Low brake fluid

- Seat belt reminder
- Time

Load weight indication is an option as are Operator Pin Code Access and Key switch.

The dashboard of the VG series provides 2 litres of space including a clipboard holder and storage space for pens, mobile phone, mp3/4 player and drinks as well as light switches and an optional 12V socket.

Masts

A full range of Yale Hi-Vis, 2 stage LFL and 2 and 3 stage FFL masts are available. Yale Hi-Vis masts are designed for durability and reliability with widely spaced channels, lift chains and main lift cylinders for maximum visibility.

Wheelbase

Depending on capacity there is a model to suit the application requirements:

Short Wheelbase

ERC 22VG/25VG - 375 Ah,

Medium Wheelbase

ERC 22VG/25VG/30VG - 450 Ah

Long Wheelbase

ERC 32VG/35VG - 600Ah

Each wheelbase allows the VG series to be tailored to the application needs and provide the appropriate battery capacity.

Low lifetime costs

Lower maintenance costs are delivered through reduced maintenance. This reduction is primarily achieved through the use of Hall Effect sensors, 'O' Ring face seals, an electric park brake, CANbus and AC technology. Auto-regenerative braking also reduces service brake usage contributing to an increase in the life of parts. 1000 hours service intervals are standard on most components.

Options

- Accutouch mini-levers
- Return to Set Tilt
- Foot directional control
- Lighting kits, including LED lights
- Reverse alarm
- Integral side-shift
- Custom batteries
- Audible back up alarm
- Visible alarm strobe
- Load weight indicator
- Impact sensor
- Swivel full suspension seats (cloth/vinyl)

Option Bundles

- Operator comfort
- Productivity
- Rental



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Safety. This truck conforms to the current EU requirements. Specification is subject to change without notice.

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Truck shown with optional equipment