

VF series

Electric Forklift Trucks

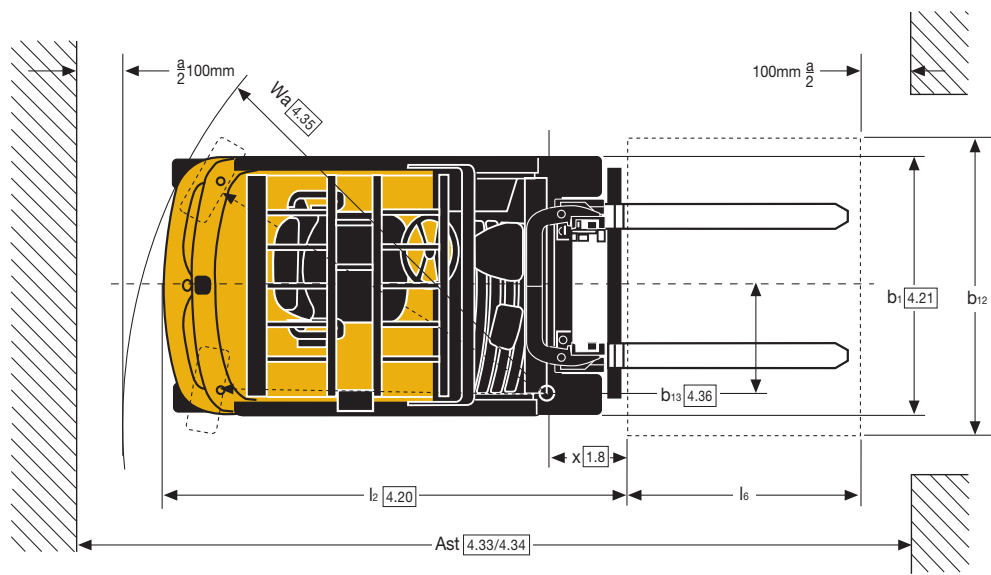
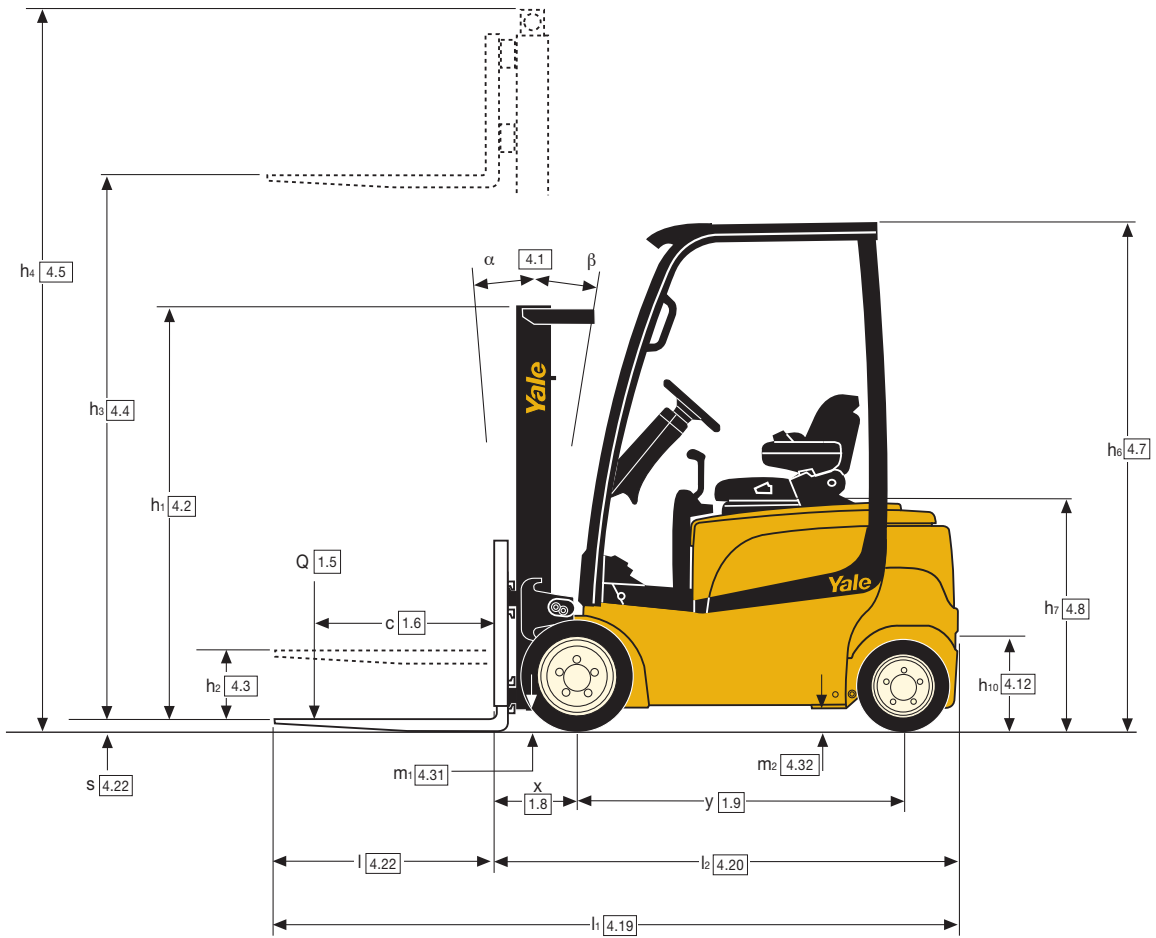
1,600kg / 1,800kg / 2,000kg

- YaleStop automatic park brake eliminates uncontrolled roll-back on ramps
- Oil-immersed brakes
- CANbus technology
- High-performance AC motor technology
- 2 battery choices: DIN and BS



Truck Dimensions

If $b_{12/2} \leq b_{13}$
 $Ast = Wa + x + l_6 + a$
 If $b_{12/2} > b_{13}$
 $Ast = Wa + R + a = Wa + \sqrt{(l_6 + x)^2 + (b_{12/2} - b_{13})^2} + a$



ERP 16VF MWB mast details and capacity ratings (kg) - Supercushion tyres

Model						ERP 16 VF MWB						
Tyres						18 x 7-8						
Width across tyres						1050mm						
Masts	OAH h1 (mm)	FFH h2+s (mm)	MFH h3+s (mm)	h4 (mm)	Tilt		Forks			Integral Sideshift		
					F	B	Load Centre (kg)			Load Centre (kg)		
							500	600	700	500	600	700
2 Stage LFL Clear View	2230	140	3360	3868	5	5	1600	1450	1350	1580	1410	1280
	2580	140	3860	4368	5	5	1600	1450	1340	1570	1410	1270
	2830	140	4360	4868	5	5	1580	1430	1330	1550	1390	1260
	3180	140	4860	5368	5	5	1500	1360	1250	1460	1310	1190
2 Stage LFL Hi-Vis	2180	140	3430	4006	5	5	1600	1450	1350	1580	1410	1280
	2530	140	3930	4506	5	5	1600	1450	1340	1570	1410	1270
	2780	140	4430	5006	5	5	1580	1430	1330	1550	1390	1260
	3130	140	4930	5506	5	5	1500	1350	1250	1460	1310	1180
2 Stage FFL Hi-Vis	2080	1505	3215	3813	5	5	1600	1450	1340	1570	1410	1270
	2330	1755	3715	4313	5	5	1600	1450	1340	1560	1400	1270
	2680	2105	4335	4913	5	5	1600	1450	1330	1550	1390	1260
3 Stage FFL Clear View	2080	1572	4600	5108	5	5	1550	1400	1300	1520	1360	1230
	2180	1672	4900	5408	5	5	1500	1360	1250	1460	1310	1190
	2330	1822	5200	5708	5	5	1420	1310	1200	1380	1260	1140
	2430	1942	5500	6008	5	5	1270	1250	1150	1250	1210	1090
3 Stage FFL Hi-Vis	2030	1455	4600	5175	5	5	1570	1420	1320	1540	1380	1250
	2130	1555	4900	5475	5	5	1520	1380	1270	1490	1330	1210
	2280	1705	5200	5775	5	5	1470	1330	1220	1430	1280	1160
	2380	1805	5500	6075	5	5	1390	1280	1170	1360	1230	1110

Tilt speed reduced to 1° per second by mechanical tilt speed restrictors for mast heights 5000mm and above.

ERP 16VF LWB mast details and capacity ratings (kg) - Supercushion tyres

Model						ERP 16 VF LWB						
Tyres						18 x 7-8						
Width across tyres						1050mm						
Masts	OAH h1 (mm)	FFH h2+s (mm)	MFH h3+s (mm)	h4 (mm)	Tilt		Forks			Integral Sideshift		
					F	B	Load Centre (kg)			Load Centre (kg)		
							500	600	700	500	600	700
2 Stage LFL Clear View	2230	140	3360	3868	5	5	1600	1450	1350	1580	1410	1280
	2580	140	3860	4368	5	5	1600	1450	1340	1570	1410	1270
	2830	140	4360	4868	5	5	1580	1430	1330	1550	1390	1260
	3180	140	4860	5368	5	5	1500	1360	1250	1460	1310	1190
2 Stage LFL Hi-Vis	2180	140	3430	4006	5	5	1600	1450	1350	1580	1410	1280
	2530	140	3930	4506	5	5	1600	1450	1340	1570	1410	1270
	2780	140	4430	5006	5	5	1580	1430	1330	1550	1390	1260
	3130	140	4930	5506	5	5	1500	1360	1250	1460	1310	1180
2 Stage FFL Hi-Vis	2080	1505	3215	3813	5	5	1600	1450	1340	1570	1410	1270
	2330	1755	3715	4313	5	5	1600	1450	1340	1560	1400	1270
	2680	2105	4335	4913	5	5	1600	1450	1330	1550	1390	1260
3 Stage FFL Clear View	2080	1572	4600	5108	5	5	1550	1400	1300	1520	1360	1230
	2180	1672	4900	5408	5	5	1500	1360	1250	1460	1310	1190
	2330	1822	5200	5708	5	5	1410	1310	1200	1370	1260	1140
	2430	1942	5500	6008	5	5	1270	1250	1150	1240	1210	1090
3 Stage FFL Hi-Vis	2030	1455	4600	5175	5	5	1570	1420	1320	1540	1380	1250
	2130	1555	4900	5475	5	5	1520	1380	1270	1490	1330	1210
	2280	1705	5200	5775	5	5	1470	1330	1220	1430	1280	1160
	2380	1805	5500	6075	5	5	1390	1280	1170	1350	1230	1110

Tilt speed reduced to 1° per second by mechanical tilt speed restrictors for mast heights 5000mm and above.

ERP 18VF MWB mast details and capacity ratings (kg) - Supercushion tyres

Model						ERP 18 VF MWB						
Tyres						200 / 50-10						
Width across tyres						1116mm						
Masts	OAH h1 (mm)	FFH h2+s (mm)	MFH h3+s (mm)	h4 (mm)	Tilt		Forks			Integral Sideshift		
					F	B	Load Centre (kg)			Load Centre (kg)		
							500	600	700	500	600	700
2 Stage LFL Hi-Vis	2180	140	3430	4006	5	5	1800	1600	1490	1740	1560	1420
	2530	140	3930	4506	5	5	1800	1600	1480	1740	1560	1410
	2780	140	4430	5006	5	5	1780	1580	1470	1720	1540	1390
	3130	140	4930	5506	5	5	1580	1500	1380	1540	1450	1310
2 Stage FFL Hi-Vis	2080	1505	3215	3813	5	5	1800	1600	1500	1750	1570	1420
	2330	1755	3715	4313	5	5	1800	1600	1490	1750	1560	1420
	2680	2105	4335	4913	5	5	1800	1600	1480	1740	1560	1410
3 Stage FFL Hi-Vis	2030	1455	4600	5175	5	5	1770	1570	1460	1710	1530	1380
	2130	1555	4900	5475	5	5	1710	1520	1410	1650	1480	1340
	2280	1705	5200	5775	5	5	1650	1470	1360	1580	1420	1290
	2380	1805	5500	6075	5	5	1590	1410	1300	1520	1360	1230

Tilt speed reduced to 1° per second by mechanical tilt speed restrictors for mast heights 5000mm and above.

ERP 18VF LWB mast details and capacity ratings (kg) - Supercushion tyres

Model						ERP 18 VF LWB						
Tyres						200 / 50-10						
Width across tyres						1116mm						
Masts	OAH h1 (mm)	FFH h2+s (mm)	MFH h3+s (mm)	h4 (mm)	Tilt		Forks			Integral Sideshift		
					F	B	Load Centre (kg)			Load Centre (kg)		
							500	600	700	500	600	700
2 Stage LFL Hi-Vis	2180	140	3430	4006	5	5	1800	1600	1490	1740	1560	1420
	2530	140	3930	4506	5	5	1800	1600	1480	1740	1560	1410
	2780	140	4430	5006	5	5	1780	1580	1470	1720	1540	1390
	3130	140	4930	5506	5	5	1580	1500	1380	1540	1450	1310
2 Stage FFL Hi-Vis	2080	1505	3215	3813	5	5	1800	1600	1500	1750	1570	1420
	2330	1755	3715	4313	5	5	1800	1600	1490	1750	1560	1420
	2680	2105	4335	4913	5	5	1800	1600	1480	1740	1560	1410
3 Stage FFL Hi-Vis	2030	1455	4600	5175	5	5	1770	1570	1460	1710	1530	1380
	2130	1555	4900	5475	5	5	1710	1520	1410	1650	1480	1340
	2280	1705	5200	5775	5	5	1650	1470	1360	1590	1420	1290
	2380	1805	5500	6075	5	5	1590	1410	1300	1520	1360	1230

Tilt speed reduced to 1° per second by mechanical tilt speed restrictors for mast heights 5000mm and above.

ERP 20VF LWB mast details and capacity ratings (kg) - Supercushion tyres

Model						ERP 20 VF LWB						
Tyres						200 / 50-10						
Width across tyres						1116mm						
Masts	OAH h1 (mm)	FFH h2+s (mm)	MFH h3+s (mm)	h4 (mm)	Tilt		Forks			Integral Sideshift		
					F	B	Load Centre (kg)			Load Centre (kg)		
							500	600	700	500	600	700
2 Stage LFL Hi-Vis	2180	140	3430	4006	5	5	2000	1800	1640	1920	1720	1560
	2530	140	3930	4506	5	5	2000	1800	1630	1910	1720	1550
	2780	140	4430	5006	5	5	1980	1780	1620	1890	1700	1540
	3130	140	4930	5506	5	5	1570	1570	1520	1520	1520	1450
2 Stage FFL Hi-Vis	2080	1505	3215	3813	5	5	2000	1800	1650	1930	1730	1570
	2330	1755	3715	4313	5	5	2000	1800	1640	1920	1720	1560
	2680	2105	4335	4913	5	5	2000	1800	1630	1910	1720	1550
3 Stage FFL Hi-Vis	2030	1455	4600	5175	5	5	1960	1770	1610	1880	1690	1530
	2130	1555	4900	5475	5	5	1900	1710	1550	1820	1630	1470
	2280	1705	5200	5775	5	5	1780	1650	1490	1750	1570	1420
	2380	1805	5500	6075	5	5	1640	1590	1430	1610	1500	1360

Tilt speed reduced to 1° per second by mechanical tilt speed restrictors for mast heights 5000mm and above.

Note that the capacities are given in kilograms.
All ratings with DIN Battery. All ratings with 1000mm forks and less load backrest.

VDI 2198 - General Specifications

Distinguishing mark	1.1	Manufacturer (abbreviation)		Yale	Yale	Yale	Yale	Yale
	1.2	Manufacturer's type designation		ERP 16VF (MWB)	ERP 16VF (LWB)	ERP 18VF (MWB)	ERP 18VF (LWB)	ERP 20VF (LWB)
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas		Battery	Battery	Battery	Battery	Battery
	1.4	Operator type: hand, pedestrian, standing, seated, order-picker		Seated	Seated	Seated	Seated	Seated
	1.5	Rated capacity/rated load	Q (kg)	1600	1600	1800	1800	2000
	1.6	Load centre distance	c (mm)	500	500	500	500	500
	1.8	Load distance, centre of drive axle to fork	x (mm)	326	326	321	321	321
	1.9	Wheelbase	y (mm)	1431	1539	1431	1539	1539
	Weights	2.1	Service weight	kg	3190	3210	3260	3280
2.2		Axle loading, laden front/rear	kg	4050 / 732	3996 / 806	4434 / 621	4372 / 703	4700 / 590
2.3		Axle loading, unladen front/rear	kg	1525 / 1657	1532 / 1665	1600 / 1655	1612 / 1663	1633 / 1657
Tyres/chassis	3.1	Tyres: L = pneumatic, V = cushion, SE = supercushion		SE	SE	SE	SE	SE
	3.2	Tyre size, front		18 x 7-8	18 x 7-8	200 / 50-10	200 / 50-10	200 / 50-10
	3.3	Tyre size, rear		140 / 55-9	140 / 55-9	140 / 55-9	140 / 55-9	140 / 55-9
	3.5	Wheels, number front/rear (x = driven wheels)		2X / 2	2X / 2	2X / 2	2X / 2	2X / 2
	3.6	Tread, front	b10 (mm)	889	889	908	908	908
	3.7	Tread, rear	b11 (mm)	918	918	918	918	918
	Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α / β (°)	5 / 5	5 / 5	5 / 5	5 / 5
4.2		Height of mast, lowered	h1 (mm)	2230	2230	2180	2180	2180
4.3		Free lift ▼	h2 (mm)	100	100	100	100	100
4.4		Lift ▼	h3 (mm)	3320	3320	3390	3390	3390
4.5		Height, mast extended +	h4 (mm)	3868	3868	4006	4006	4006
4.7		Height of overhead guard (cabin)	h6 (mm)	2070	2070	2070	2070	2070
4.8		Seat height/stand height ✕	h7 (mm)	919	919	919	919	919
4.12		Coupling height	h10 (mm)	360	360	360	360	360
4.19		Overall length	l1 (mm)	2981	3088	2975	3083	3083
4.20		Length to face of forks	l2 (mm)	1981	2088	1975	2083	2083
4.21		Overall width	b1/b2 (mm)	1076	1076	1146	1146	1146
4.22		Fork dimensions ISO2331	s/e/l (mm)	40 / 80 / 1000	40 / 80 / 1000	40 / 80 / 1000	40 / 80 / 1000	40 / 80 / 1000
4.23		Fork carriage ISO 2328, class/type A,B		2A	2A	2A	2A	2A
4.24		Fork carriage width ►	b3 (mm)	907	907	977	977	977
4.31		Ground clearance, laden, below mast	m1 (mm)	88	88	88	88	88
4.32		Ground clearance, centre of wheelbase	m2 (mm)	100	100	100	100	100
4.34.1		Aisle width for pallets 1000 x 1200 crossways	Ast (mm)	3309	3417	3305	3413	3413
4.34.2		Aisle width for pallets 800 x 1200 lengthways	Ast (mm)	3432	3540	3427	3535	3535
4.35	Turning radius	Wa (mm)	1654	1762	1654	1762	1762	
4.36	Internal turning radius	b13 (mm)	0	0	0	0	0	
Performance data	5.1	Travel speed, laden/unladen ⚙	km/h	16 / 16	16 / 16	16 / 16	16 / 16	16 / 16
	5.2	Lift speed, laden/unladen	m/s	.43 / .59	.43 / .59	.41 / .58	.41 / .58	.40 / .58
	5.3	Lowering speed, laden/unladen	m/s	.50 / .47	.50 / .47	.46 / .40	.46 / .40	.47 / .40
	5.5	Drawbar pull, laden/unladen	N	3406 / 3680	3406 / 3680	3337 / 3646	3337 / 3646	3294 / 3637
	5.6	Max. drawbar pull, laden/unladen	N	11415 / 11690	11415 / 11690	11355 / 11664	11346 / 11655	11304 / 11647
	5.7	Gradeability, laden/unladen	%	11 / 16	11 / 16	10 / 15	10 / 15	9 / 15
	5.8	Max. gradeability, laden/unladen	%	25 / 34	25 / 34	23 / 35	23 / 36	22 / 36
	5.9	Acceleration time, laden/unladen	s	4.6 / 4.1	4.6 / 4.1	4.6 / 4.1	4.6 / 4.1	4.6 / 4.1
	5.10	Service brake		hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
	Electric-engine	6.1	Drive motor rating S2 60 min	kW	2 x 5.0	2 x 5.0	2 x 5.0	2 x 5.0
6.2		Lift motor rating at S3 15%	kW	12	12	12	12	12
6.3		Battery according to DIN 43531/35/36 A, B, C, no		DIN 43531-A	DIN 43531-A	DIN 43531-A	DIN 43531-A	DIN 43531-A
6.4		Battery voltage/nominal capacity K5	(V) / (Ah/Ah)	48 / 625	48 / 750	48 / 625	48 / 750	48 / 750
6.5		Battery weight	kg	813 / 899	962 / 1064	813 / 899	962 / 1064	962 / 1064
6.6		Energy consumption according to VDI cycle ✱ +	kWh/h @ Nr of Cycles	5.1	5.1	5.3	5.4	5.6
Addition data	10.1	Operating pressure for attachments		180	180	180	180	180
	10.2	Oil volume for attachments ✧	bar	20-40	20-40	20-40	20-40	20-40
	10.7	Sound pressure level at the driver's seat	l/min	65	65	65	65	65
	10.8	Towing coupling, type DIN	dB (A)	Pin	Pin	Pin	Pin	Pin

✱ L_{Pz} , measured according to the test cycles and based on the weighting values contained in EN12053

▼ Bottom of forks

✕ Full suspension seat (FLM80) specified. Standard hood specified. 953mm with raised hood.

+ Without load backrest

► Add 32mm for load backrest

○ h6 subject to +/- 5mm tolerance

✧ Maximum flow through dash display

⚙ Extended shift off with e-hydraulics

Spec sheet truck based on:

3360mm (Clear View) and 3430mm (Hi-Vis) to top of fork, 2 stage LFL mast with standard carriage and 1000mm forks, with HiP performance setting, DIN battery configuration.

VF series

Models: 16VF MWB/LWB, 18VF MWB/LWB, 20VF LWB

AC Technology

Yale AC technology Class H traction motors are suitable for the most arduous applications. Smooth forward and reverse directional changes providing seamless driving action. In the high-performance or 'HiP' setting, AC technology provides increased speed and acceleration, even when fully laden, and increased speed on grade. As well as improving performance, AC technology reduces maintenance and allows service intervals of 1000 hours for most components.

Brakes

The truck is equipped with automatic park brake and oil immersed brakes. Automatic YaleStop™ park brake: spring applied, electro magnetically released park brakes are mounted at the end of both motors. The park brake is automatically set by the control system, so that the brake is always set whenever the truck is not moving, and no traction has been requested. Moreover the park brake provides controllability on ramp applications.

Steering

A 12 KW AC motor drives a pump which provides oil pressure for the hydraulic pump and for steering, eliminating the need for a separate steering motor and pump. The steering column is infinitely adjustable in a range of 26°. During cornering the speed of the drive motors is continuously adjusted independently by the traction controller ensuring smooth operation. The Yale VF features a state-of-the-art new customised steer-axle that has increased articulation of the steer wheels, allowing it to turn in smaller spaces than a conventional 4-wheel steer-axle.

Performance modes

Performance of the truck can be tailored via the enhanced overhead display, with 4 performance modes available to suit the requirements of the application or the preferences of the driver. For maximum speed and acceleration, choose mode 4, or for more delicate maneuvering and extended battery life, mode 1 is ideal.



Your service technician can alter the top speed and acceleration of mode 4, with modes 1, 2 and 3 being automatically adjusted as percentages of setting 4.

'eLo' and 'HiP' Settings

Yale VF trucks feature an 'eLo' energy saving setting (accessible via the dash display with service password), which provides exceptional energy efficient performance for when you require continuous operation over longer periods without recharging the battery. You can choose the 'HiP' high performance setting for higher top speeds and acceleration for the most demanding applications.

Improved ergonomics

The VF is designed for optimum operator comfort.

The operator is seated in an ergonomically designed position for maximum safety, comfort, visibility and ease of operation. The truck features a very low step height, generous floor and storage space, standard grab handle for ease of entry and standard reverse grab handle. The full suspension seat has 80mm of adjustment. A swivel seat option for a superior reverse driving position is available. Both the mini-lever module and the manual levers have an integrated direction switch. Clear



footwell allows easy access from both sides.

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 maximum visibility, with widely spaced channels, lift chains and main lift cylinders. The new Yale Clear View™ Mast with class-leading



visibility is offered on the 1.6 Ton capacity.

Battery

Choice of 2 battery sizes: DIN and BS.

Choice of 2 wheelbases:

Depending on the capacity, there is a choice of Medium Wheelbase (MWB), and Long Wheelbase (LWB). The LWB versions provide extra battery space and longer shift life. MWB versions offer improved maneuverability and reduced stacking aisle dimensions. Battery discharge indicator and lift interrupt are standard on all trucks.

Low lifetime costs

Lower maintenance costs as a result of less maintenance by oil immersed brakes, electric park brake, and CANbus and AC technology. Transmission is sealed for life, eliminating the need for service. LED light packages are offered as an option.

1000 hours service interval for most components.

Auto Regen Braking optimises the shift life of the battery and contributes to an increase in the life of parts.

Options

- Accutouch mini-levers
- Foot directional control
- Lighting kits, including LED lights
- Reverse alarm
- Integrated sideshift
- DIN and BS battery
- Side battery extraction



VF series

Models: 16VF MWB/LWB, 18VF MWB/LWB, 20VF LWB



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

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