



ERP16-20VF

SPEC SHEET

1,600 - 2,000 kg

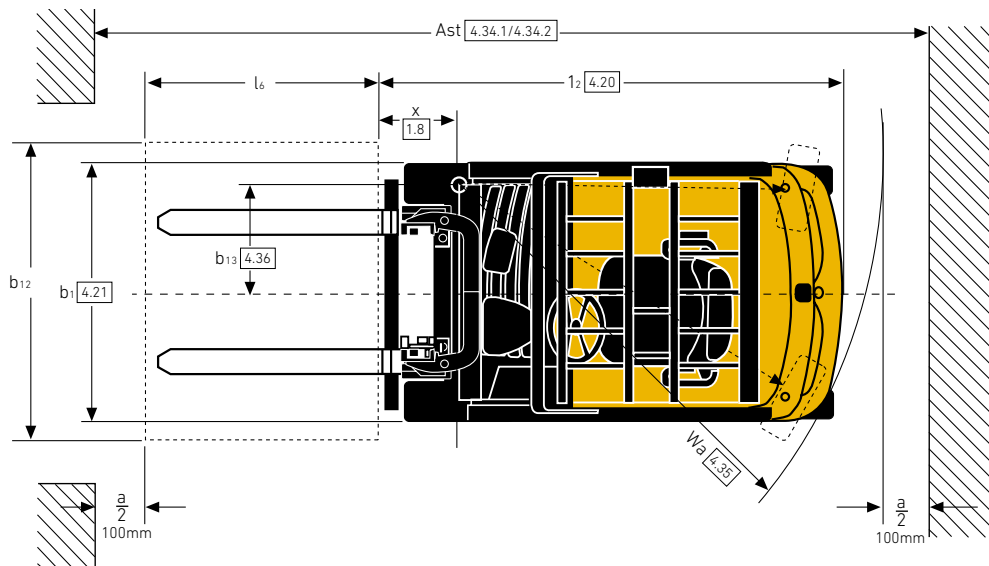
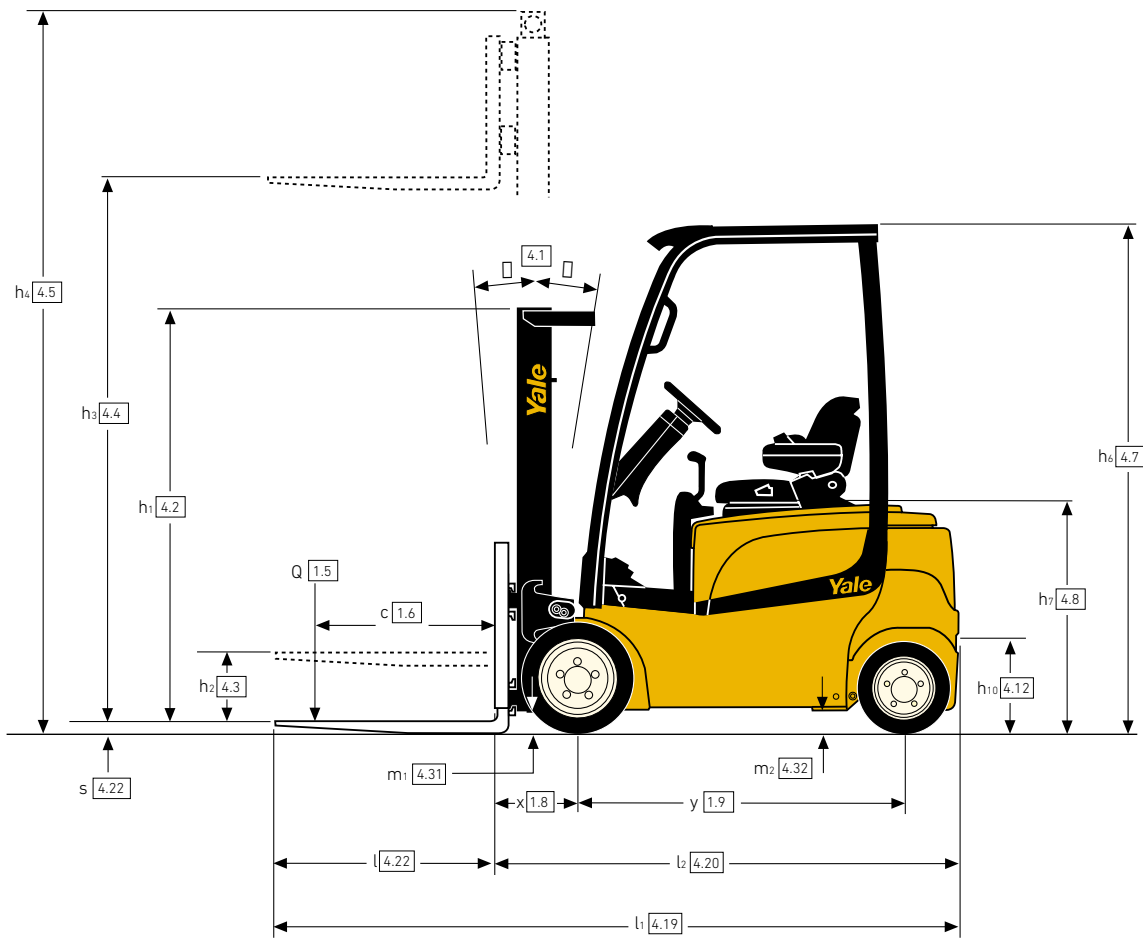
VF Series

Electric Forklift Trucks



TRUCK DIMENSIONS – VF SERIES

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



VDI 2198 – GENERAL SPECIFICATIONS – VF SERIES

		Yale			
		ERP 16VF MWB	ERP 16VF LWB	ERP 18VF MWB	
GENERAL	1.1	Manufacturer			
	1.2	Model designation			
	1.3	Drive	Electric (battery)		
	1.4	Operator type	Seated		
	1.5	Rated capacity/rated load	1.6		1.8
	1.6	Load centre distance	500		
	1.8	Load distance, centre of drive axle to fork	326		321
	1.9	Wheelbase	1431	1539	1431
	WEIGHT	2.1	Service weight ⁽¹⁾	3036	3209
2.2		Axle loading, laden front/rear ⁽¹⁾	3986 / 650	3992 / 817	4435 / 653
2.3		Axle loading, unladen front/rear ⁽¹⁾	1461 / 1575	1533 / 1676	1601 / 1687
TYRES	3.1	Tyres front/rear	Superelastic		
	3.2	Tyre size, front	18 x 7-8		200 / 50-10
	3.3	Tyre size, rear	140 / 55-9		
	3.5	Wheels, number front/rear (x = driven wheels)	2X / 2		
	3.6	Tread, front	889		
	3.7	Tread, rear	918		
	DIMENSIONS	4.1	Tilt of mast/fork carriage forward/backward	α/β (°)	
4.2		Height, mast lowered	2230		2180
4.3		Free lift ⁽²⁾	100		
4.4		Lift ⁽²⁾	3320		3390
4.5		Height, mast extended ⁽³⁾	3868		4006
4.7		Height of overhead guard (cabin) ⁽⁴⁾	2070		
4.7.1		Cab height (open cab)	2087		
4.8		Seat height relating to SIP/stand height ⁽⁵⁾	1017		
4.12		Coupling height	360		
4.19		Overall length	2980	3088	2975
4.20		Length to face of forks	1980		
4.21		Overall width	1050 ⁽⁶⁾		
4.22		Fork dimensions ISO 2331	40 / 80 / 1000		
4.23		Fork carriage ISO 2328, class/type A, B	2A		
4.24		Fork carriage width ⁽³⁾	907		977
4.31		Ground clearance, laden, below mast	70		
4.32		Ground clearance at centre of wheelbase ⁽⁷⁾	100		
4.33		Load dimension b ₁₂ × l ₆ crossways	1000 x 1200		
4.34		Aisle width predetermined load dimensions	3309	3417	3305
4.34.1		Aisle width for pallets 1000 × 1200 crossways	3309	3417	3305
4.34.2		Aisle width for pallets 800 × 1200 lengthways	3432	3540	3427
4.35	Turning radius	1654	1762	1654	
4.36	Internal turning radius	b ₁₃ (mm)			
4.41	90° intersecting aisle (With pallet W = 1200mm, L = 1000mm)	1778	1824	1800	
4.42	Step Height (from ground to running board) ⁽⁸⁾	526			
4.43	Step Height	484			
PERFORMANCE	5.1	Travel speed, laden/unladen ⁽⁹⁾	16 / 16		
	5.1.1	Travel speed, laden/unladen, backwards	16 / 16		
	5.2	Lift speed, laden/unladen	0.43 / 0.59		0.41 / 0.60
	5.3	Lowering speed, laden/unladen	0.50 / 0.47		0.46 / 0.40
	5.5	Drawbar pull, laden/unladen ⁽¹⁰⁾	3406 / 3680		3337 / 3646
	5.6	Max. drawbar pull, laden/unladen ⁽¹¹⁾	11415 / 11690		11355 / 11664
	5.7	Gradeability, laden/unladen ⁽¹²⁾	11 / 16		10 / 15
	5.8	Max. gradeability, laden/unladen ⁽¹¹⁾	25 / 35		23 / 35
	5.9	Acceleration time, laden/unladen ⁽⁹⁾	4.6 / 4.1		
	5.10	Service brake	Electric		
ELECTRIC	6.1	Drive motor rating S2 60 min	2x 5.0		
	6.2	Lift motor rating at S3 15%	12.0		
	6.3	Battery according to DIN 43531/35/36 A, B, C, no	DIN 43531-A		
	6.4	Battery voltage/nominal capacity K5	48 / 625	48 / 750	48 / 625
	6.5	Battery weight ⁽¹³⁾	813 / 899	962 / 1064	813 / 899
	6.6	Energy consumption according to VDI cycle ⁽⁹⁾	kWh/h @ no. of cycles		5.3
OTHER	8.1	Type of drive unit	AC Induction		
	10.1	Operating pressure for attachments ⁽¹⁴⁾	180		
	10.2	Oil volume for attachments ⁽¹⁵⁾	40		
	10.3	Hydraulic oil tank, capacity	19		
	10.7	Sound pressure level at the driver's seat LPAZ ⁽¹⁶⁾	69		
	10.8	Towing coupling, type DIN	Pin		

(1) Max. battery

(2) Bottom of forks

(3) Without load backrest

(4) h₆ subject to +/- 5mm tolerance

(5) Full suspension seat at midpoint of suspension travel. Standard hood specified. 1051mm with raised hood

(6) Overall width 1116mm with required 200/50-10 tyres fitted for masts 5000mm and over

(7) 90mm with horizontal battery removal

(8) With vertical battery removal; add 34mm with horizontal removal

(9) HiP performance

(10) 60 minute rating

VDI 2198 – GENERAL SPECIFICATIONS – VF SERIES

			Yale		
			ERP 18VF LWB	ERP 20VF MWB	ERP 20VF LWB
GENERAL	1.1	Manufacturer			
	1.2	Model designation			
	1.3	Drive		Electric (battery)	
	1.4	Operator type		Seated	
	1.5	Rated capacity/rated load	Q (t)	1.8	2.0
	1.6	Load centre distance	c (mm)	500	
	1.8	Load distance, centre of drive axle to fork	x (mm)	321	
	1.9	Wheelbase	y (mm)	1539	
	WEIGHT	2.1	Service weight ⁽¹⁾	kg	3282
2.2		Axle loading, laden front/rear ⁽¹⁾	kg	4368 / 714	4892 / 673
2.3		Axle loading, unladen front/rear ⁽¹⁾	kg	1608 / 1674	1743 / 1822
TYRES	3.1	Tyres front/rear		Superelastic	
	3.2	Tyre size, front		200 / 50-10	
	3.3	Tyre size, rear		140 / 55-9	15 x 4,5-8
	3.5	Wheels, number front/rear (x = driven wheels)		2X / 2	
	3.6	Tread, front	b ₁₀ (mm)	908	906
	3.7	Tread, rear	b ₁₁ (mm)	918	
	DIMENSIONS	4.1	Tilt of mast/fork carriage forward/backward	α/β (°)	5 / 5
4.2		Height, mast lowered	h ₁ (mm)	2180	
4.3		Free lift ⁽²⁾	h ₂ (mm)	100	
4.4		Lift ⁽²⁾	h ₃ (mm)	3390	
4.5		Height, mast extended ⁽³⁾	h ₄ (mm)	4006	
4.7		Height of overhead guard (cabin) ⁽⁴⁾	h ₆ (mm)	2070	
4.7.1		Cab height (open cab)		2087	
4.8		Seat height relating to SIP/stand height ⁽⁵⁾	h ₇ (mm)	1017	
4.12		Coupling height	h ₁₀ (mm)	360	
4.19		Overall length	l ₁ (mm)	3083	2975
4.20		Length to face of forks	l ₂ (mm)	2083	1975
4.21		Overall width	b ₁ /b ₂ (mm)	1116	
4.22		Fork dimensions ISO 2331	s/e/l (mm)	40 / 80 / 1000	
4.23		Fork carriage ISO 2328, class/type A, B		2A	
4.24		Fork carriage width ⁽³⁾	b ₃ (mm)	977	
4.31		Ground clearance, laden, below mast	m ₁ (mm)	70	
4.32		Ground clearance at centre of wheelbase ⁽⁷⁾	m ₂ (mm)	100	
4.33		Load dimension b ₁₂ × l ₆ crossways	b ₁₂ × l ₆ (mm)	1000 x 1200	
4.34		Aisle width predetermined load dimensions	Ast (mm)	3413	3305
4.34.1		Aisle width for pallets 1000 × 1200 crossways	Ast (mm)	3413	3305
4.34.2		Aisle width for pallets 800 × 1200 lengthways	Ast (mm)	3535	3427
4.35		Turning radius	Wa (mm)	1762	1654
4.36		Internal turning radius	b ₁₃ (mm)	0	
4.41	90° intersecting aisle (With pallet W = 1200mm, L = 1000mm)	mm	1846	1800	
4.42	Step Height (from ground to running board) ⁽⁸⁾	mm	526		
4.43	Step Height	mm	484		
PERFORMANCE	5.1	Travel speed, laden/unladen ⁽⁹⁾	km/h	16 / 16	
	5.1.1	Travel speed, laden/unladen, backwards	km/h	16 / 16	
	5.2	Lift speed, laden/unladen	m/s	0.41 / 0.60	0.40 / 0.58
	5.3	Lowering speed, laden/unladen	m/s	0.46 / 0.40	0.47 / 0.40
	5.5	Drawbar pull, laden/unladen ⁽¹⁰⁾	N	3337 / 3646	3260 / 3603
	5.6	Max. drawbar pull, laden/unladen ⁽¹¹⁾	N	11346 / 11655	11269 / 11612
	5.7	Gradeability, laden/unladen ⁽¹²⁾	%	10 / 15	9 / 14
	5.8	Max. gradeability, laden/unladen ⁽¹¹⁾	%	23 / 36	31 / 34
	5.9	Acceleration time, laden/unladen ⁽⁹⁾	s	4.6 / 4.1	
	5.10	Service brake		Electric	
ELECTRIC	6.1	Drive motor rating S2 60 min	kW	2x 5.0	
	6.2	Lift motor rating at S3 15%	kW	12.0	
	6.3	Battery according to DIN 43531/35/36 A, B, C, no		DIN 43531-A	
	6.4	Battery voltage/nominal capacity K5	(V)/(ah)	48 / 750	48 / 625
	6.5	Battery weight ⁽¹³⁾	kg	962 / 1064	813 / 899
	6.6	Energy consumption according to VDI cycle ⁽⁹⁾	kWh/h @ no. of cycles	5.4	5.5
OTHER	8.1	Type of drive unit		AC Induction	
	10.1	Operating pressure for attachments ⁽¹⁴⁾	bar	180	
	10.2	Oil volume for attachments ⁽¹⁵⁾	l/min	40	
	10.3	Hydraulic oil tank, capacity	l	19	
	10.7	Sound pressure level at the driver's seat LPAZ ⁽¹⁶⁾	dB(A)	69	
	10.8	Towing coupling, type DIN		Pin	

(11) 5 minute rating

(12) 30 minute rating

(13) Min./max.

(14) With manual hydraulic controls; 155 bar with e-hydraulic controls

(15) Maximum flow set through dash display

(16) LPAZ, measured according to the test cycles and based on the weighting values contained in EN12053

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

All values are nominal values and they are subject to tolerances.

MAST DIMENSIONS – ERP 16VF MWB

h ₁ (mm)	h _{2+S} (mm)	h _{3+S} (mm)	h ₄ (mm)	Tilt		Forks			Integral sideshift		
				F	B	Load centre (kg)			Load centre (kg)		
						500	600	700	500	600	700
2-Stage Limited Free-Lift (LFL) Mast Clear View											
2230	140	3360	3868	5	5	1600	1450	1350	1600	1430	1300
2580	140	3860	4368	5	5	1600	1450	1340	1590	1430	1290
2830	140	4360	4868	5	5	1580	1430	1330	1570	1410	1270
3180	140	4860	5368	5	5	1490	1350	1250	1480	1320	1200
2-Stage Limited Free-Lift (LFL) Mast Hi-Vis											
2180	140	3432	4006	5	5	1600	1450	1350	1580	1410	1280
2530	140	3932	4506	5	5	1600	1450	1340	1570	1410	1270
2780	140	4432	5006	5	5	1580	1430	1330	1550	1390	1260
3130	140	4932	5506	5	5	1490	1350	1240	1450	1300	1180
2-Stage Full Free-Lift (FFL) Mast Hi-Vis											
2080	1505	3218	3728	5	5	1600	1450	1340	1570	1410	1270
2330	1755	3718	4228	5	5	1600	1450	1340	1560	1400	1270
2680	2105	4338	4847	5	5	1600	1450	1330	1550	1390	1260
3-Stage Full Free-Lift (FFL) Mast Clear View											
1980	1472	4300	4808	5	5	1600	1450	1340	1570	1410	1270
2080	1572	4600	5108	5	5	1500	1400	1300	1480	1360	1230
2180	1672	4900	5408	5	5	1350	1350	1250	1320	1310	1190
2330	1822	5200 ⁽¹⁾	5708	5	5	1220	1220	1190	1190	1190	1140
2430	1922	5500 ⁽¹⁾	6008	5	5	1090	1090	1090	1060	1060	1060
3-Stage Full Free-Lift (FFL) Mast Hi-Vis											
1930	1355	4300	4875	5	5	1600	1450	1340	1570	1410	1270
2030	1455	4600	5175	5	5	1570	1420	1320	1540	1380	1250
2130	1555	4900	5375	5	5	1460	1370	1270	1420	1330	1200
2280	1705	5200 ⁽¹⁾	5775	5	5	1320	1320	1220	1290	1270	1150
2380	1805	5500 ⁽¹⁾	6075	5	5	1190	1190	1160	1160	1160	1100

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

All ratings with DIN Battery

All ratings with 1000mm forks and less load backrest

Note that the capacities are given in kilograms

MAST DIMENSIONS – ERP 16VF LWB

h ₁ (mm)	h _{2+S} (mm)	h _{3+S} (mm)	h ₄ (mm)	Tilt		Forks			Integral sideshift		
				F	B	Load centre (kg)			Load centre (kg)		
						500	600	700	500	600	700
2-Stage Limited Free-Lift (LFL) Mast Clear View											
2230	140	3360	3868	5	5	1600	1450	1350	1600	1430	1300
2580	140	3860	4368	5	5	1600	1450	1340	1590	1430	1290
2830	140	4360	4868	5	5	1580	1430	1330	1570	1410	1270
3180	140	4860	5368	5	5	1500	1360	1250	1480	1330	1200
2-Stage Limited Free-Lift (LFL) Mast Hi-Vis											
2180	140	3432	4006	5	5	1600	1450	1350	1580	1410	1280
2530	140	3932	4506	5	5	1600	1450	1340	1570	1410	1270
2780	140	4432	5006	5	5	1580	1430	1330	1550	1390	1260
3130	140	4932	5506	5	5	1500	1360	1250	1460	1310	1180
2-Stage Full Free-Lift (FFL) Mast Hi-Vis											
2080	1505	3218	3728	5	5	1600	1450	1340	1570	1410	1270
2330	1755	3718	4228	5	5	1600	1450	1340	1560	1400	1270
2680	2105	4338	4847	5	5	1600	1450	1330	1550	1390	1260
3-Stage Full Free-Lift (FFL) Mast Clear View											
1980	1472	4300	4808	5	5	1600	1450	1340	1570	1410	1270
2080	1572	4600	5108	5	5	1510	1400	1300	1470	1360	1230
2180	1672	4900	5408	5	5	1360	1360	1250	1320	1310	1190
2330	1822	5200 ⁽¹⁾	5708	5	5	1230	1230	1200	1190	1190	1140
2430	1922	5500 ⁽¹⁾	6008	5	5	1100	1100	1100	1060	1060	1060
3-Stage Full Free-Lift (FFL) Mast Hi-Vis											
1930	1355	4300	4875	5	5	1600	1450	1340	1570	1410	1270
2030	1455	4600	5175	5	5	1570	1420	1320	1540	1380	1250
2130	1555	4900	5375	5	5	1450	1380	1270	1430	1330	1210
2280	1705	5200 ⁽¹⁾	5775	5	5	1330	1320	1220	1290	1280	1160
2380	1805	5500 ⁽¹⁾	6075	5	5	1200	1200	1170	1160	1160	1110

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

All ratings with DIN Battery

All ratings with 1000mm forks and less load backrest

Note that the capacities are given in kilograms

MAST DIMENSIONS – ERP 18VF MWB

h ₁ (mm)	h _{2+S} (mm)	h _{3+S} (mm)	h ₄ (mm)	Tilt		Forks			Integral sideshift		
				F	B	Load centre (kg)			Load centre (kg)		
						500	600	700	500	600	700
2-Stage Limited Free-Lift (LFL) Mast Hi-Vis											
2180	140	3432	4006	5	5	1800	1600	1490	1740	1560	1420
2530	140	3932	4506	5	5	1800	1600	1480	1740	1560	1410
2780	140	4432	5006	5	5	1780	1580	1470	1720	1540	1390
3130	140	4932	5506	5	5	1580	1500	1380	1540	1450	1310
2-Stage Full Free-Lift (FFL) Mast Hi-Vis											
2080	1505	3218	3728	5	5	1800	1600	1500	1750	1570	1420
2330	1755	3718	4228	5	5	1800	1600	1490	1750	1560	1420
2680	2105	4338	4847	5	5	1800	1600	1480	1740	1560	1410
3-Stage Full Free-Lift (FFL) Mast Hi-Vis											
1930	1355	4300	4875	5	5	1800	1600	1490	1740	1560	1410
2030	1455	4600	5175	5	5	1770	1570	1460	1710	1530	1390
2130	1555	4900	5375	5	5	1710	1520	1410	1650	1480	1340
2280	1705	5200 ⁽¹⁾	5775	5	5	1650	1470	1360	1590	1420	1290
2380	1805	5500 ⁽¹⁾	6075	5	5	1590	1410	1300	1520	1360	1230

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

All ratings with DIN Battery

All ratings with 1000mm forks and less load backrest

Note that the capacities are given in kilograms

MAST DIMENSIONS – ERP 18VF LWB

h ₁ (mm)	h _{2+S} (mm)	h _{3+S} (mm)	h ₄ (mm)	Tilt		Forks			Integral sideshift		
				F	B	Load centre (kg)			Load centre (kg)		
						500	600	700	500	600	700
2-Stage Limited Free-Lift (LFL) Mast Hi-Vis											
2180	140	3432	4006	5	5	1800	1600	1490	1740	1560	1420
2530	140	3932	4506	5	5	1800	1600	1480	1740	1560	1410
2780	140	4432	5006	5	5	1780	1580	1470	1720	1540	1390
3130	140	4932	5506	5	5	1580	1500	1380	1540	1450	1310
2-Stage Full Free-Lift (FFL) Mast Hi-Vis											
2080	1505	3218	3728	5	5	1800	1600	1500	1750	1570	1420
2330	1755	3718	4228	5	5	1800	1600	1490	1750	1560	1420
2680	2105	4338	4847	5	5	1800	1600	1480	1740	1560	1410
3-Stage Full Free-Lift (FFL) Mast Hi-Vis											
1930	1355	4300	4875	5	5	1800	1600	1490	1740	1560	1410
2030	1455	4600	5175	5	5	1770	1570	1460	1710	1530	1380
2130	1555	4900	5375	5	5	1710	1520	1410	1650	1480	1340
2280	1705	5200 ⁽¹⁾	5775	5	5	1600	1470	1360	1580	1420	1290
2380	1805	5500 ⁽¹⁾	6075	5	5	1470	1410	1300	1440	1360	1230

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

All ratings with DIN Battery

All ratings with 1000mm forks and less load backrest

Note that the capacities are given in kilograms

MAST DIMENSIONS – ERP 20VF MWB/LWB

h ₁ (mm)	h _{2+S} (mm)	h _{3+S} (mm)	h ₄ (mm)	Tilt		Forks			Integral sideshift		
				F	B	Load centre (kg)			Load centre (kg)		
						500	600	700	500	600	700
2-Stage Limited Free-Lift (LFL) Mast Hi-Vis											
2180	140	3432	4006	5	5	2000	1800	1640	1920	1720	1560
2530	140	3932	4506	5	5	2000	1800	1630	1910	1720	1550
2780	140	4432	5006	5	5	1980	1780	1620	1890	1700	1540
3130	140	4932	5506	5	5	1570	1570	1530	1520	1520	1450
2-Stage Full Free-Lift (FFL) Mast Hi-Vis											
2080	1505	3218	3728	5	5	2000	1800	1650	1930	1730	1570
2330	1755	3718	4228	5	5	2000	1800	1640	1920	1720	1560
2680	2105	4338	4847	5	5	2000	1800	1630	1910	1720	1550
3-Stage Full Free-Lift (FFL) Mast Hi-Vis											
1930	1355	4300	4875	5	5	2000	1800	1640	1910	1710	1550
2030	1455	4600	5175	5	5	1960	1770	1610	1880	1690	1530
2130	1555	4900	5375	5	5	1910	1710	1560	1770	1630	1480
2280	1705	5200 ⁽¹⁾	5775	5	5	1670	1660	1500	1640	1570	1420
2380	1805	5500 ⁽¹⁾	6075	5	5	1540	1530	1440	1500	1500	1370

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

All ratings with DIN Battery

All ratings with 1000mm forks and less load backrest

Note that the capacities are given in kilograms

All values are nominal values and they are subject to tolerances.



About Yale®

Yale Lift Truck Technologies leverages over a century of material handling experience and substantial investment in innovation to bring the most advanced technology-driven lift truck solutions to market. The company offers a full line of award-winning lift trucks, including reach trucks, order pickers, turret trucks, pallet jacks and trucks, pallet stackers, tow tractors and counterbalanced forklifts, as well as powerful operator assist solutions, proven robotics and a wide range of power sources to help customers adapt to today's demanding supply chain. Yale and its independent dealer network support these solutions with comprehensive after-sales service, parts, financing and training.

Yale Lift Truck Technologies is a trading name of Hyster-Yale Asia-Pacific Pty Ltd., a wholly owned subsidiary of Hyster-Yale Materials Handling, Inc.(NYSE:HY) which is headquartered in Cleveland, Ohio and operates globally.

MATERIALS HANDLING FOR:

Third-party logistics (3PL)

Auto parts distribution

Beverage

Cold & frozen foods

Food distribution

Food processing

Furniture & furnishings

Government

Health & pharma


Home centers

Retail & e-commerce

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