



A Series Lithium-ion Industrial Walkie Counterbalanced Stacker

with capacities of 2,000 to 4,000lbs

The World of Hangcha
SINCE 1956





LI-ION BATTERY
HANGCHA

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Industrial Walkie Stacker Series

The Industrial Walkie Straddle, Reach, and Counterbalance Stacker make up a series of industrial walkie stackers that can handle dock-to-stock and everything in between. Hangcha's Industrial Walkie Stacker product line offer advantageous head-length and a multi-function control handle with Electric Power Steering (EPS). This system, combined with the standard creep speed feature, gives the operator incredible load handling control with excellent maneuverability. The Industrial Walkie Stacker Series excels in the most demanding operational environments to bring your materials handling capabilities to their full potential.



A Series Lithium-ion Industrial Walkie Counterbalanced Stacker

The A Series Lithium-ion Walkie Counterbalanced Stacker is designed to go where all general walkie stackers do. However, the counterbalanced stacker is unique because it is also designed for operations that use enclosed pallets. The design makes moving enclosed pallets easier because it allows for the little clearance there is in the pallet. Cutting-edge AC drive control technology and electric power steering provide advanced performance, comfortable operation, safety, reliability, and low maintenance costs. It can be use for loading and unloading in warehouses, supermarkets, and workshops.

Environment Efficiency Economy

Appearance

- / The A Series Industrial Walkie Counterbalanced Stacker Pallet Truck has a smooth vivid profile and was designed to be ergonomic. The exterior of this forklift is powder coated in a durable, easy to see, green finish that designates it as a lithium-ion powered counterbalanced stacker.
- / This pallet truck uses stamped steel plates and injection molded parts. This creates a robust and durable product that is able to successfully take on the wear and tear of a warehouse environment.



High Performance

- / The truck uses stepless speed regulation for more accurate lifting and lowering of goods.
- / The Electric Power Steering system makes maneuvering and load handling extremely easy.
- / The brushless AC travel motor features excellent acceleration, outstanding climbing ability, low heat emission, and is maintenance-free.
- / The latest CURTIS AC control system is highly efficient thanks to its accurate and stable control.
- / The CANBUS structure makes communication between all of the machine's functions faster and more reliable.
- / The truck's regenerative braking prevents it from sliding on a grade.
- / The forward and backward tilting function of the carriage makes loading and unloading goods safer.

Comfort

- / The stepless speed regulation provides the operator with more accurate operation of the forks, and smoother and steadier lifting and lowering of goods.
- / Thanks to the tiller's design, all operations can be completed with one hand.
- / The counterbalanced stacker's design provides the operator with a wide field of view allowing them to easily enter and withdraw from a pallet.
- / The compact design of the straddle stacker and large rounded corners make the truck suitable for operation in narrow operational spaces.
- / The optional battery side roll out provides the operator with an easy way to install or replace the battery.

Maintenance

- / The brushless AC drive motor is maintenance-free. This significantly reduces the operating costs of the straddle stacker.
- / The integrated battery indicator, hour meter, and self-diagnostic instrument are all easy to use.
- / The maintenance hatch opens to allow for easy access to all of the truck's components.
- / The lithium-ion battery is maintenance-free meaning that the operator does not have to check or water it. This allows for a more productive and cost effective operational environment.

Reliability

- / The three-support points, low center of gravity, and the high-strength steel framed design feature a large residual load capacity, durability, and a long service life.
- / All wires and cables are protected to significantly increase the reliability of the straddle stacker's electrical system.
- / The non-contact proximity switch is reliable and features a long service life.
- / The low noise and vibration hydraulic power unit provides the straddle stacker with stable and reliable mast movement.
- / The mast is made of H-shaped steel channels to give it better stability and rigidity.
- / The power plug is fastened to straddle stacker's body to prevent damaging the plug when installing the battery.

Safety

- / Travel speed is lowered automatically when the forks are lifted to/past a specific height.
- / As the truck's steering angle increases, the truck's speed decreases. This is a standard safety feature.
- / The counterbalanced stacker features three types of braking functions, release braking, reverse braking, and emergency braking, for safe operation.
- / The anti-sliding function on a grade ensures a safe operational workspace.
- / The emergency reversing button at top of the tiller protects the operator from being injured in case of an emergency during the backward operation of the truck.
- / The soft landing function reduces the mast's lowering speed automatically when the forks are lowered to a height less than 3.9" from the ground. This is designed to protect the goods from hitting the ground too hard.

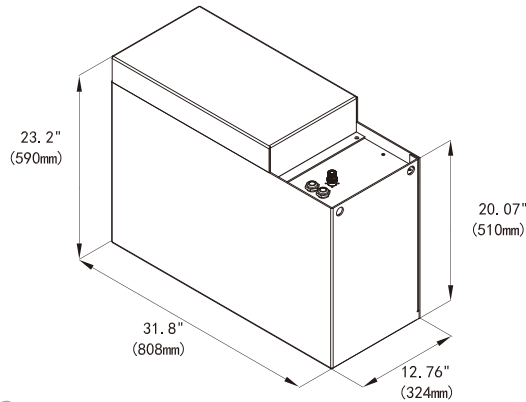




CATL Lithium Iron Phosphate Battery Pack

- / Integrated Battery Management System (BMS) continually monitors energy management and ensures reliable operation.
- / HANGCHA provides these Lithium Iron Phosphate (LiFePO₄) battery packs with up to a 5 year or 10,000 hour warranty.
- / See warranty certificate for specific warranty information on the Lithium Iron Phosphate battery packs.

Standard Battery Capacity	
Battery Capacity (V/Ah) (kW·h)	24V/404Ah 9.70kW·h



Standard Specification

- / AC Drive Motor
- / CURTIS AC Drive & Oil Pump Motor Controller
- / Electric Power Steering System
- / Automatic Deceleration when Turning
- / Proportional Speed Regulation for Lifting, Lowering, and Tilting Functions
- / Multi-Function Battery Condition Meter
- / High Performance Load Bearing Wheels
- / 42" Fork Length
- / 8.3-35.4" Range of Adjustability for Outer Distance of Forks
- / 106.3" Limited Free Lift 2 Stage Mast
- / Soft Landing System
- / Multi-Function Tiller
- / Creep Speed Function
- / Emergency Reverse Function
- / Horn
- / 3° and 8° Forward and Backward Tilt of Mast Respectively
- / Load Backrest
- / Wire Mesh Mast Shield

Options

- / Various Mast Heights
- / Various Fork Lengths
- / Battery Side Extraction
- / Freezer
- / Sideshifter



REMA Tiller was designed with ergonomics in mind so that operation is more comfortable.



The mast is designed with H channel steel to make it more stable and rigid.



The mast tilting function makes loading and unloading pallets easy.



Mast speed will automatically reduce when the fork is lowered to a height less than 3.9" from ground.

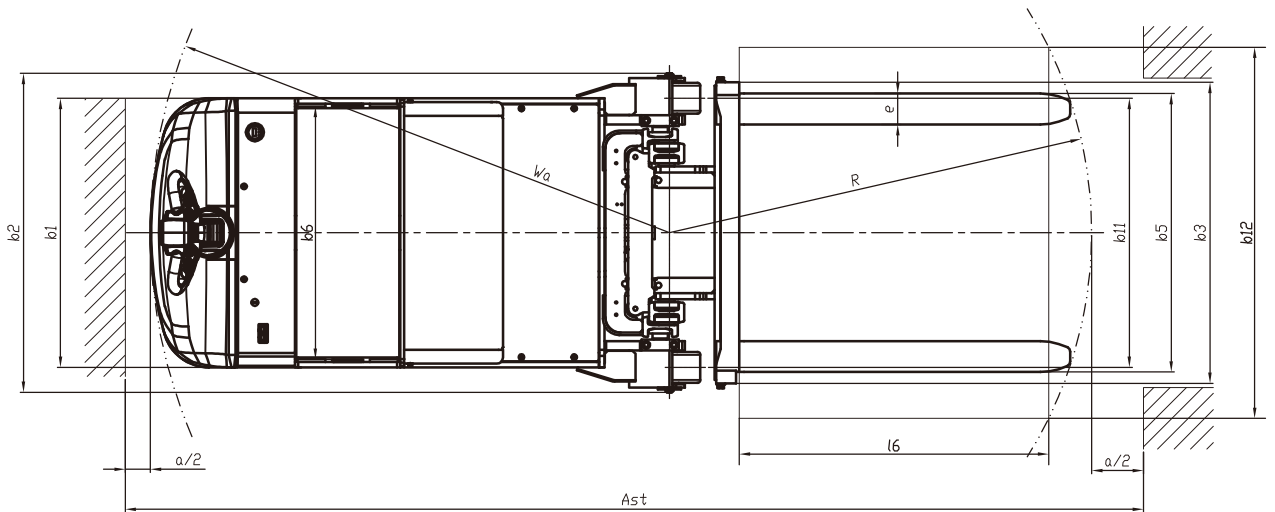
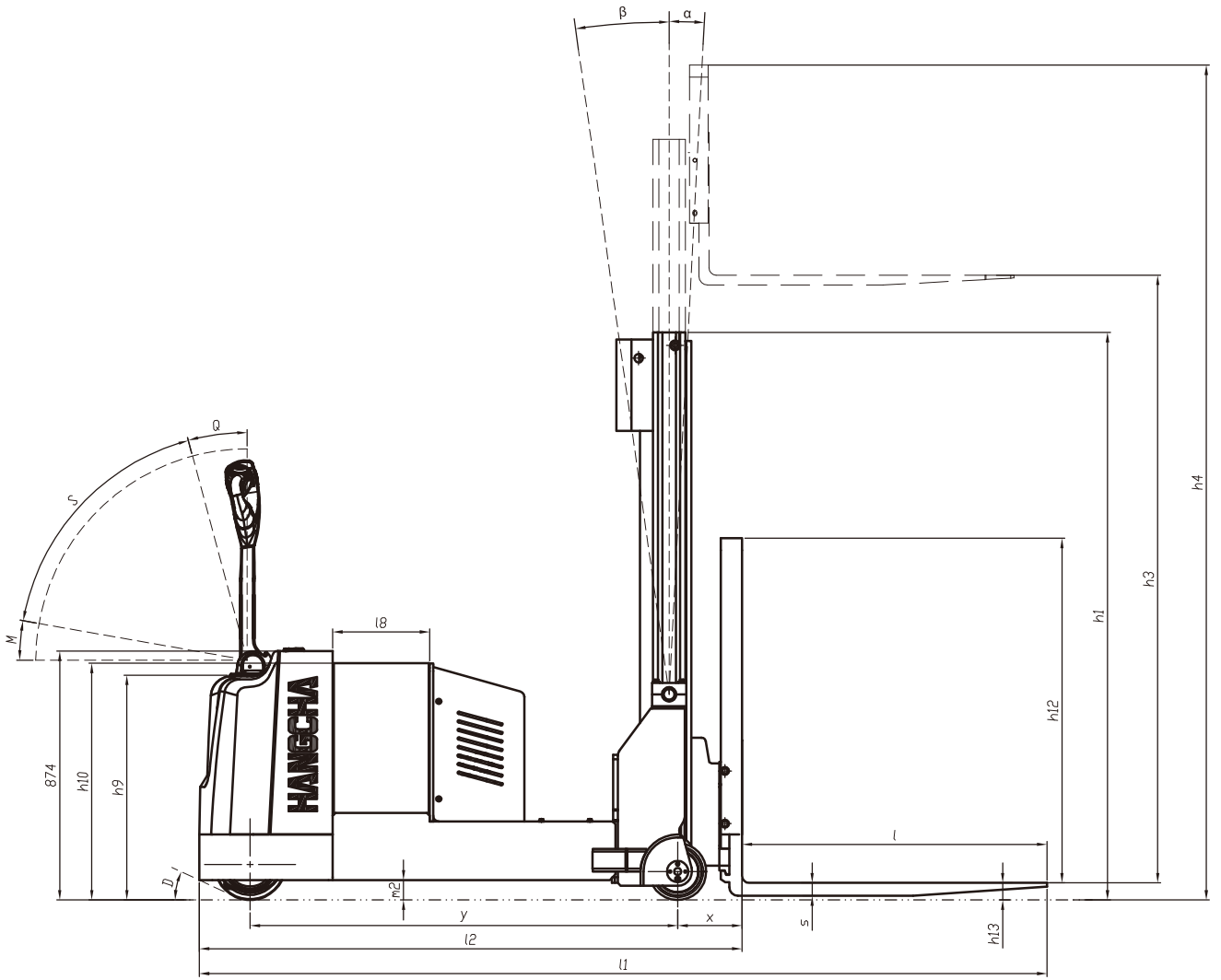
A Series Lithium-ion Industrial Walkie Counterbalanced Stacker Specification

		HANGCHA GROUP CO.,LTD.				
		WCS09Li	WCS14Li	WCS18Li		
Distinguishing Marks	1.1	Manufacturer				
		HCF A Model				
	1.2	Manufacturer's type designation	CPDB09-AC1-NAI	CPDB14-AC1-NAI	CPDB18-AC1-NAI	
	1.3	Drive: electric(battery or mains),diesel,petrol,fuel gas	Battery	Battery	Battery	
	1.4	Operator Type:hand,pedestrian,standing,seated,order-picker	Walkie	Walkie	Walkie	
	1.5	Rated Capacity/Rated Load	Q (kg/lb)	2000/900	3000/1400	4000/1800
	1.6	Load Centre Distance	c (mm/in)	24/600	24/600	24/600
	1.8	Load Distance, centre of drive axle to fork	x (mm/in)	8.5/216	8.5/216	8.9/226
	1.9	Wheelbase	y (mm/in)	46/1168	52.3/1330	59/1500
Weights	2.1	Service Weight Without Battery	kg/lb	3858/1750	4718/2140	5423/2460
Wheels & Chassis	3.1	Tires: solid rubber,superelastic,pneumatic,polyurethane		PU	PU	PU
	3.2	Tire Size, front	mm/in	Φ9.5×3.1 / Φ250×80	Φ9.8×3.9 / Φ250×100	Φ9.8×3.9 / Φ250×100
	3.3	Tire Size, rear	mm/in	Φ7.9×3.9 / Φ200×100	Φ7.9×3.9 / Φ200×100	Φ7.9×3.9 / Φ200×100
	3.5	Wheels, number front / rear (x = driven wheels)		1×/2	1×/2	1×/2
	3.7	Tread, rear	b11 (mm/in)	34.3/870	34.3/870	34.3/870
Basic Dimensions	4.1	Tilt of Mast Forward/Backward	α/β (°)	3/8	3/8	3/8
	4.2	Height, mast lowered	h1 (mm/in)	74.3/1887	74.3/1887	78.4/1992
	4.4	Lift	h3 (mm/in)	106.3/2700	106.3/2700	106.3/2700
	4.5	Height, mast extended	h4 (mm/in)	156.2/3968	156.2/3968	156.2/3968
	4.9	Height of Tiller in Drive Position Min./Max.	h14 (mm/in)	31.1/58.3 (790/1480)	31.1/58.3 (790/1480)	31.1/58.3 (790/1480)
	4.15	Height, lowered	h13 (mm/in)	50/2.0	50/2.0	2.4/60
	4.19	Overall Length	l1 (mm/in)	104.5 ¹⁾ /2654 ¹⁾	110 ¹⁾ /2794 ¹⁾	117.1 ¹⁾ /2974 ¹⁾
	4.20	Length to Face of Forks	l2 (mm/in)	62.4 ¹⁾ /1584 ¹⁾	67.9 ¹⁾ /1724 ¹⁾	75.0 ¹⁾ /1904 ¹⁾
	4.21	Overall Width	b1/b2 (mm/in)	34.3/40.6 (870/1030)	34.3/40.6 (870/1030)	34.3/40.6 (870/1030)
	4.22	Fork Dimensions	s/e/l (mm/in)	1.4/3.9/42.1 (35/100/1070)	1.4/3.9/42.1 (35/100/1070)	1.8/3.9/42.1 (45/100/1070)
	4.24	Fork-Carriage Width	b3 (mm/in)	38.3/974	38.3/974	38.3/974
	4.25	Distance Between Fork-Arms	b5 (mm/in)	8.3~35.4 (210~900)	8.3~35.4 (210~900)	8.3~35.4 (210~900)
	4.32	Ground Clearance, centre of wheelbase	m2 (mm/in)	2.8/70	2.8/70	2.8/70
	4.35	Turning Radius	Wa (mm/in)	53.9/1368	59.4/1508	66.1/1678
		Battery Compartment Width	l8 (mm/in)	13.4/340	31.3/340	31.3/340
		Battery Compartment Length	b6 (mm/in)	32.2/818	32.2/818	32.2/818
		Battery Floor Height w/ Optional Rollers	mm/in	9.4/240	9.4/240	9.4/240
		Load Backrest Height	h12 (mm/in)	48.5/1233	48.5/1233	48.5/1233
		Grade clearance	D (%)	39.75	46.57	46.57
		Top Vertical Braking Arc	Q (°)	15	15	15
	Bottom Braking Arc	M (°)	10	10	10	
	Handle Operating Arc	S (°)	65	65	65	
Performance Data	5.1	Travel Speed, laden/unladen	kph (mph)	3.4/3.4 (5.5/5.5)	3.4/3.4 (5.5/5.5)	3.4/3.4 (5.5/5.5)
	5.2	Lift Speed, laden/unladen	m/s (ft/min)	29.53/47.24 (0.150/0.240)	27.56/45.28 (0.140/0.230)	24.61/42.52 (0.125/0.216)
	5.3	Lowering Speed, laden/unladen	m/s (ft/min)	43.31/49.21 (0.220/0.250)	41.34/47.24 (0.210/0.240)	41.34/47.24 (0.210/0.240)
	5.8	Max. Gradeability, laden/unladen	%	7/10	7/10	6/10
	5.10	Service Brake		Electromagnetic Braking	Electromagnetic Braking	Electromagnetic Braking
Electric Motor	6.1	Drive Motor Rating at S2 60 min.	kw/hp	2.0/1.5	4.0/3	4.0/3
	6.2	Lift Motor Rating at S3 15%	kw/hp	2.95/2.2	4.29/3.2	4.29/3.2
	6.4	Battery Voltage/Nominal Capacity K5	V/Ah	24/404	24/404	24/404
		Minimum Battery Weight	kg/lb	276/125	276/125	276/125
		Maximum Battery Weight	kg/lb	496/225	805/365	496/225
Others	8.1	Type of Drive Control		AC CURTIS	AC CURTIS	AC CURTIS
	10.5	Steering Design		Electric power steering	Electric power steering	Electric power steering
	10.7	Sound Pressure Level at the Driver's Seat	dB(A)	70	70	70

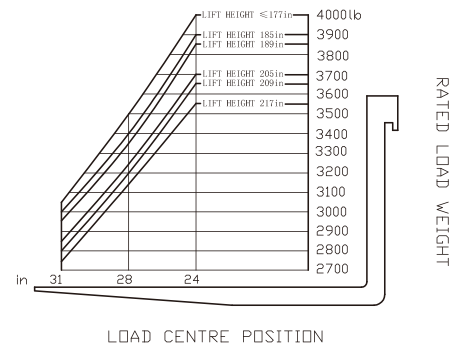
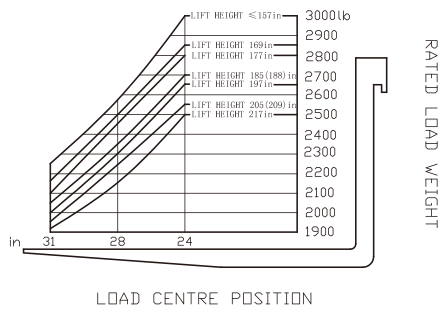
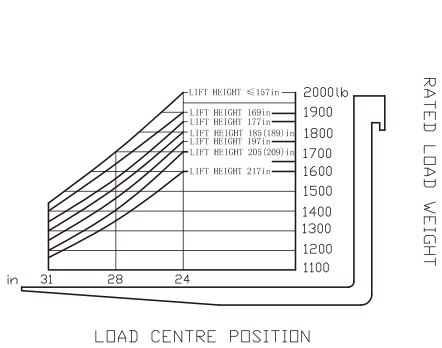
Note:1). Triplex mast +21mm(0.83in)

Specifications are subject to change without notice.





$$A_{st} = W_a + R + a = W_a + \sqrt{(l_6 + x)^2 + \left(\frac{b_{12}}{2}\right)^2} + a$$



Aisle Requirement for a Right Angle Stack with the WCS09Li

Aisle Requirement for a Right Angle Stack ^①		Load Length				
Load Width	36(915)	in(mm)	36(915)	40(1016)	42(1067)	48(1220)
	36(915)	in(mm)	101.9(2588)	105.6(2682)	107.5(2730)	113.2(2875)
	40(1016)	in(mm)	102.7(2608)	106.3(2701)	108.2(2748)	113.8(2891)
	42(1067)	in(mm)	103.1(2619)	106.7(2711)	108.6(2758)	114.2(2900)
	48(1220)	in(mm)	104.4(2653)	108.0(2743)	109.8(2789)	115.3(2928)

^①Add a minimum of 1.2in (300mm) for maneuverability.

Aisle Requirement for a Right Angle Stack with the WCS14Li

Aisle Requirement for a Right Angle Stack ^①		Load Length				
Load Width	36(915)	in(mm)	36(915)	40(1016)	42(1067)	48(1220)
	36(915)	in(mm)	107.4(2728)	111.1(2822)	113.0(2870)	118.7(3015)
	40(1016)	in(mm)	108.2(2748)	111.9(2841)	113.7(2888)	119.3(3031)
	42(1067)	in(mm)	108.6(2759)	112.2(2851)	114.1(2898)	119.7(3040)
	48(1220)	in(mm)	110.0(2793)	113.5(2883)	115.3(2929)	120.8(3068)

^①Add a minimum of 1.2in (300mm) for maneuverability.

Aisle Requirement for a Right Angle Stack with the WCS18Li

Aisle Requirement for a Right Angle Stack ^①		Load Length				
Load Width	36(915)	in(mm)	36(915)	40(1016)	42(1067)	48(1220)
	36(915)	in(mm)	114.4(2907)	118.2(3002)	120.1(3050)	125.8(3195)
	40(1016)	in(mm)	115.2(2927)	118.9(3020)	120.7(3067)	126.4(3211)
	42(1067)	in(mm)	115.7(2938)	119.3(3030)	121.1(3077)	126.7(3219)
	48(1220)	in(mm)	117.0(2972)	120.6(3062)	122.4(3108)	127.8(3247)

^①Add a minimum of 1.2in (300mm) for maneuverability.

2,000-3,000lb Mast Specification

Type	Fork Lift Height h ₃		Max. Fork Height (h ₃ +h ₁₃)		Mast Lowered h ₁		Mast Extended h ₄		Free Lift		Capacity Load Capacity at 24in/600mm			
	in	mm	in	mm	in	mm	in	mm	in	mm	WCS09Li		WCS14Li	
											lb	kg	lb	kg
Limited Free Lift 2 Stage Mast	78.7	2000	80.7	2050	60.5	1537	128.7	3268	4.3	110	2000	907	3000	1361
	98.4	2500	100.4	2550	70.4	1787	148.3	3768	4.3	110	2000	907	3000	1361
	106.3	2700	108.3	2750	74.3	1887	156.2	3968	4.3	110	2000	907	3000	1361
	118.1	3000	120.1	3050	80.2	2037	168.0	4268	4.3	110	2000	907	3000	1361
	129.9	3300	131.9	3350	86.1	2187	179.8	4568	4.3	110	2000	907	3000	1361
	137.8	3500	139.8	3550	90.0	2287	187.7	4768	4.3	110	2000	907	3000	1361
	141.7	3600	143.7	3650	92.0	2337	191.7	4868	4.3	110	2000	907	3000	1361
	145.7	3700	147.6	3750	94.0	2387	195.6	4968	4.3	110	2000	907	3000	1361
	149.6	3800	151.6	3850	95.9	2437	199.5	5068	4.3	110	2000	907	3000	1361
	157.5	4000	159.4	4050	103.8	2637	207.4	5268	4.3	110	2000	907	3000	1361
	169.3	4300	171.3	4350	109.7	2787	219.2	5568	4.3	110	1900	862	2850	1293
177.2	4500	179.1	4550	113.7	2887	227.1	5768	4.3	110	1850	839	2800	1270	
Full Free Lift 2 Stage Mast	78.7	2000	80.7	2050	62.8	1595	128.7	3268	40.7	1035	2000	907	3000	1361
	98.4	2500	100.4	2550	72.6	1845	148.3	3768	50.6	1285	2000	907	3000	1361
	106.3	2700	108.3	2750	76.6	1945	156.2	3968	54.5	1385	2000	907	3000	1361
	118.1	3000	120.1	3050	82.5	2095	168.0	4268	60.4	1535	2000	907	3000	1361
	129.9	3300	131.9	3350	88.4	2245	179.8	4568	66.3	1685	2000	907	3000	1361
	137.8	3500	139.8	3550	92.3	2345	187.7	4768	70.3	1785	2000	907	3000	1361
	141.7	3600	143.7	3650	94.3	2395	191.7	4868	72.2	1835	2000	907	3000	1361
Full Free Lift 3 Stage Mast	137.8	3500	139.8	3550	72.6	1844	187.7	4768	45.9	1165	2000	907	3000	1361
	145.7	3700	147.6	3750	75.2	1909	195.6	4968	48.6	1235	2000	907	3000	1361
	157.5	4000	159.4	4050	79.1	2009	207.4	5268	52.6	1335	2000	907	3000	1361
	169.3	4300	171.3	4350	83.0	2109	219.2	5568	56.5	1435	1900	862	2850	1293
	177.2	4500	179.1	4550	85.0	2159	227.1	5768	60.4	1535	1850	839	2800	1270
	185.0	4700	187.0	4750	88.9	2259	235.0	5968	62.6	1590	1800	816	2700	1225
	196.9	5000	198.8	5050	92.7	2354	246.8	6268	66.9	1700	1750	794	2650	1202
	204.7	5200	206.7	5250	94.8	2409	254.6	6468	70.5	1790	1700	771	2550	1157
	216.5	5500	218.5	5550	98.8	2509	266.5	6768	74.4	1890	1600	726	2500	1134

4,000lb Mast Specification

Type	Fork Lift Height h ₃		Max. Fork Height (h ₃ +h ₁₃)		Mast Lowered h ₁		Mast Extended h ₄		Free Lift		Capacity Load Capacity at 24in/600mm	
	in	mm	in	mm	in	mm	in	mm	in	mm	WCS18Li	
											lb	kg
Limited Free Lift 2 Stage Mast	78.7	2000	81.1	2060	64.6	1642	128.7	3268	4.7	120	4000	1814
	98.4	2500	100.8	2560	74.5	1892	148.3	3768	4.7	120	4000	1814
	106.3	2700	108.7	2760	78.4	1992	156.2	3968	4.7	120	4000	1814
	118.1	3000	120.5	3060	84.3	2142	168.0	4268	4.7	120	4000	1814
	129.9	3300	132.3	3360	90.2	2292	179.8	4568	4.7	120	4000	1814
	137.8	3500	140.2	3560	94.2	2392	187.7	4768	4.7	120	4000	1814
	141.7	3600	144.1	3660	96.1	2442	191.7	4868	4.7	120	4000	1814
	145.7	3700	148.0	3760	98.1	2492	195.6	4968	4.7	120	4000	1814
	149.6	3800	152.0	3860	100.1	2542	199.5	5068	4.7	120	4000	1814
	157.5	4000	159.8	4060	108.0	2742	207.4	5268	4.7	120	4000	1814
	169.3	4300	171.7	4360	113.9	2892	219.2	5568	4.7	120	4000	1814
177.2	4500	179.5	4560	117.8	2992	227.1	5768	4.7	120	4000	1814	
Full Free Lift 2 Stage Mast	78.7	2000	81.1	2060	66.9	1700	128.7	3268	41.1	1045	4000	1814
	98.4	2500	100.8	2560	76.8	1950	148.3	3768	51.0	1295	4000	1814
	106.3	2700	108.7	2760	80.7	2050	156.2	3968	54.9	1395	4000	1814
	118.1	3000	120.5	3060	86.6	2200	168.0	4268	60.8	1545	4000	1814
	129.9	3300	132.3	3360	92.5	2350	179.8	4568	66.7	1695	4000	1814
	137.8	3500	140.2	3560	96.5	2450	187.7	4768	70.7	1795	4000	1814
	141.7	3600	144.1	3660	98.4	2500	191.7	4868	72.6	1845	4000	1814
Full Free Lift 3 Stage Mast	137.8	3500	140.2	3560	76.5	1944	187.7	4768	46.3	1175	4000	1814
	145.7	3700	148.0	3760	79.1	2009	195.6	4968	50.8	1290	4000	1814
	157.5	4000	159.8	4060	83.0	2109	207.4	5268	54.7	1390	4000	1814
	169.3	4300	171.7	4360	87.0	2209	219.2	5568	58.7	1490	4000	1814
	177.2	4500	179.5	4560	88.9	2259	227.1	5768	62.6	1590	4000	1814
	185.0	4700	187.4	4760	92.9	2359	235.0	5968	63.0	1600	3900	1769
	196.9	5000	199.2	5060	96.6	2454	246.8	6268	63.4	1610	3800	1724
	204.7	5200	207.1	5260	98.8	2509	254.6	6468	66.9	1700	3700	1678
	216.5	5500	218.9	5560	102.7	2609	266.5	6768	70.9	1800	3550	1610



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