




# WSA161

## HEAVY DUTY LI-ION STACKER 1.6T

 1600 kg
  3000 mm
  24 V Li-Ion



The WSA Series is designed for intensive warehouse operations, distribution centers, and logistics facilities where stacking speed, precision, and uptime are critical. Thanks to proportional lifting control, operators can stack pallets smoothly and safely, even in multi-level racking. Compact size and improved visibility make the WSA Series highly effective in confined areas, while its strong mast options provide reliable residual capacity at high lift levels.

SPECIFICATION	REF	UNIT	VALUE
Battery type			Li-Ion
Battery nominal capacity K5		Ah	100
Battery voltage		V	24
Rated capacity	Q	kg	1600
Load centre distance	c	mm	600
Service weight		kg	1070
Height, mast lowered	$h_1$	mm	2015
Lift	$h_3$	mm	2915
Height, mast extended	$h_4$	mm	3495
Overall length	$l_1$	mm	1924
Overall width	$b_1/b_2$	mm	810
Length to face of forks	$l_2$	mm	714
Fork dimensions	s/e/l	mm	65×170×1150
Turning radius	$wa$	mm	1506
Manufacturer			EP
Model designation			WSA161

# Features

## Fast and precise stacking

The WSA Series achieves lift heights of up to 4.5 m in just 15 seconds, dramatically improving stacking speed. The proportional lifting system ensures precise pallet placement in multi-level racking.



## User-friendly details

The redesigned cover includes a storage pocket and USB charging outlet, letting operators store documents or recharge devices while working. Ergonomic tiller design and creep speed mode further enhance safe and comfortable operation.

## Compact design with great visibility

With shorter length to face of forks and reduced turning radius (as low as 1446 mm), the WSA stackers are perfect for confined aisles. The WSA161 includes two side cylinders as standard, improving operator visibility during lifting.



## Advanced Li-ion power system

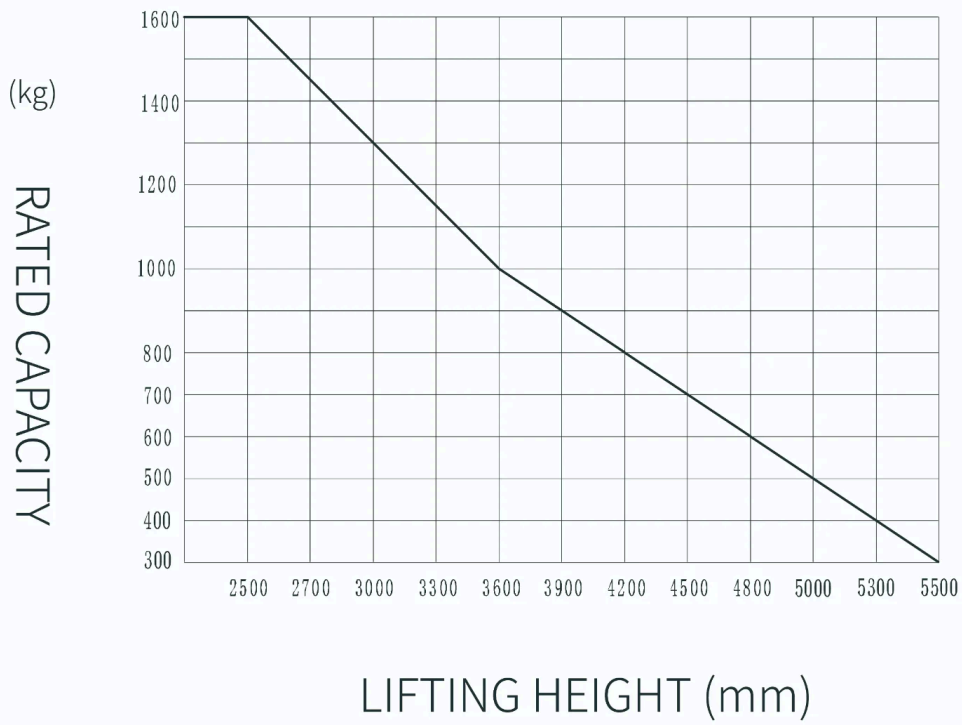
Equipped with a 24V/100Ah Li-ion battery and integrated charger, the WSA Series supports fast, flexible charging and zero maintenance. Optional larger 205Ah Li-ion batteries extend operating time for multi-shift applications.

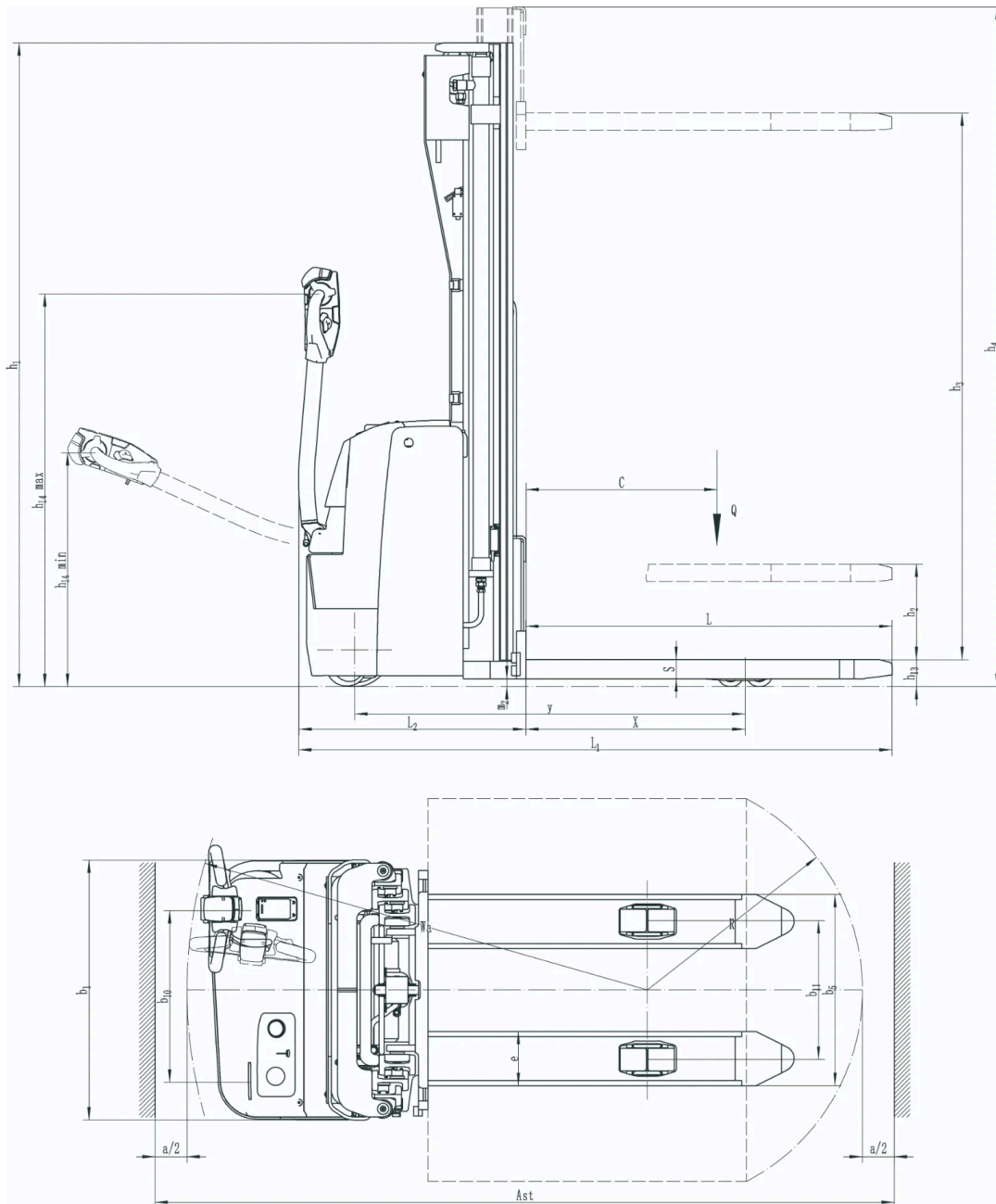
# VDI Chart

	SPECIFICATION	REF	UNIT	VALUE
1.1	Manufacturer			EP
1.2	Model designation			WSA161
1.3	Drive			Electric
1.4	Operator type			Pedestrian
1.5	Rated capacity	Q	kg	1600
1.6	Load centre distance	c	mm	600
1.8	Load distance, centre of drive axle to fork	x	mm	690
1.9	Wheelbase	y	mm	1261
2.1	Service weight		kg	1070
2.2	Axle loading, laden front/rear		kg	780/1890
2.3	Axle loading, unladen front/rear		kg	730/340
3.1	Tyres			Polyurethane
3.2	Tyre size, front		mm	230×75
3.3	Tyre size, rear		mm	85×70
3.4	Additional wheels (castor wheels)		mm	130×55
3.5	Wheels, number front/rear (x=drive wheels)			1x , 1/4
3.6	Tread width, front	b <sub>10</sub>	mm	538
3.7	Tread width, rear	b <sub>11</sub>	mm	406
4.2	Height, mast lowered	h <sub>1</sub>	mm	2015
4.4	Lift	h <sub>3</sub>	mm	2915
4.5	Height, mast extended	h <sub>4</sub>	mm	3495
4.9	Height drawbar in driving position min./max.	h <sub>14</sub>	mm	715/1200
4.15	Height, lowered	h <sub>13</sub>	mm	90
4.18	Width of loading surface			170
4.19	Overall length	l <sub>1</sub>	mm	1924
4.20	Length to face of forks	l <sub>2</sub>	mm	714
4.21	Overall width	b <sub>1</sub> /b <sub>2</sub>	mm	810
4.22	Fork dimensions	s/e/l	mm	65×170×1150
4.24	Fork carriage width		mm	750
4.25	Distance between fork-arms	b <sub>5</sub>	mm	570
4.31	Ground clearance, laden, below mast		mm	25

SPECIFICATION		REF	UNIT	VALUE
4.32	Ground clearance, centre of wheelbase	m <sub>2</sub>	mm	25
4.34.1	Aisle width for pallets 1000×1200 crossways	Ast	mm	2383
4.34.2	Aisle width for pallets 800 × 1200 lengthways	Ast	mm	2356
4.35	Turning radius	Wa	mm	1506
5.1	Travel speed, laden/unladen		km/h	5/5.5
5.2	Lift speed, laden/unladen		m/s	0.23/0.3
5.3	Lowering speed, laden/unladen		m/s	0.4/0.36
5.8	Max. gradeability, laden/unladen		%	8/16
5.10	Service brake			Electromagnetic
5.11	Parking brake			Electromagnetic
6.1	Drive motor rating S2 60 min		kW	1.6
6.2	Lift motor rating at S3 15%		kW	4.5
6.4	Battery nominal capacity K5		Ah	100
6.4	Battery voltage		V	24
6.4.1	Battery type			Li-Ion
6.5	Battery weight		kg	40
6.6	Energy consumption according to DIN EN 16796		kWh/h	0.79 <sup>1)</sup>
6.7	Turnover output according to VDI 2198			64
6.8	Turnover efficiency according to VDI 2198			46.24
8.1	Type of drive unit			AC
10.5	Steering design			Mechanical
10.7	Sound pressure level at the driver's seat		dB(A)	74
15.1	Charger output current		A	30

## WSA161 RATED CAPACITIES GRAPH





## Mast Options

MAST TYPE	LIFT HEIGHT (H3, MM)	MAST LOWERED HEIGHT (H1, MM)	MAST EXTENDED HEIGHT, NO BACKREST (H4, MM)	FREE LIFT HEIGHT, NO BACKREST (H2, MM)
2-Wide Mast	2600	1815	3095	
2-Wide Mast	3000	2015	3495	
2-Wide Mast	3300	2185	3835	
2-Wide Mast	3600	2312	4089	
2-Wide Mast	3900	2462	4389	
2-Wide Mast	4150	2592	4649	

MAST TYPE	LIFT HEIGHT (H3, MM)	MAST LOWERED HEIGHT (H1, MM)	MAST EXTENDED HEIGHT, NO BACKREST (H4, MM)	FREE LIFT HEIGHT, NO BACKREST (H2, MM)
2-Free Mast	2650	1815	3118	1320
2-Free Mast	2950	1962	3412	1470
2-Free Mast	3250	2115	3718	1620
3-Free Mast	4000	1820	4445	1345
3-Free Mast	4500	2020	4945	1545
3-Free Mast	4800	2115	5245	1645
3-Free Mast	5000	2185	5445	1715
3-Free Mast	5500	2385	5945	1915

## Options

ITEM	OPTIONS (optional items marked in yellow)
Fork dimension	1150*570   1150*685
Fork lowered height	90
Fork carriage width option	750
Backrest height	388
Load wheel type	Double
Load wheel material	PU
Drive wheel material	PU   Trace PU   Rubber
Battery capacity	100Ah Li-ion   205Ah Li-ion   210Ah Lead-acid   240Ah Lead-acid
Charger	24V-30 internal (Li-ion)   24V-100A external (Li-ion)   24V-30A external (Lead-acid)
Battery display indicator (BDI)	With time (bluetooth)
Castor wheels	Yes and not customized
Water auto-filling system	No   Yes and not customized (only for Lead-acid battery)
Warning lamp	No   Yes and not customized
Area warning lamp	No   Yes and not customized
Rearview mirror	No   Yes and not customized
Buzzer	No   Yes and not customized
Turtle speed	Yes and not customized
Telematics	No   Yes and not customized

ITEM	OPTIONS (optional items marked in yellow)
Charging interlock-UK standard	No   Yes and not customized
USB outlet	Yes and not customized
Battery side pull function	No
Cold storage	No
Proportional lift system	Yes and not customized
Keypad option	No   Yes and not customized