

# Autopilot reach truck 1.6 - 2.5 ton



**reflex**  
*AUTOPILOT*

RAE160  
RAE200  
RAE250



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# Autopilot reach truck

Truck specifications					RAE160	RAE200	RAE250
Identification	1.1	Manufacturer			Toyota	Toyota	Toyota
	1.2	Model			RAE160	RAE200	RAE250
	1.3	Drive			Electric	Electric	Electric
	1.4	Operator type			Seated	Seated	Seated
	1.5	Load capacity/rated load	Q	kg	1600	2000	2500
	1.6	Load centre	c	mm	600	600	600
	1.8	Load distance, centre of support arm wheel to face of forks	x	mm	See battery compartment table		
	1.9	Wheelbase	y	mm	1395	1515	1575
	Weight	2.1	Service weight including battery		kg	3782	4246
2.3		Axle load, mast retracted without load, drive/support arm wheel		kg	2209/1380	2513/1610	2701/1952
2.4		Axle load, mast extended with load, drive/support arm wheel		kg	629/4560	746/5377	698/6455
2.5		Axle load, mast retracted with load, drive/support arm wheel		kg	1971/3218	2276/3846	2347/4806
Wheels		3.1	Drive wheel and support arm wheel			Vulkollan ®	Vulkollan ®
	3.2	Wheel size, front		mm	Ø 350x140	Ø 400x160	Ø 400x160
	3.3	Wheel size, rear		mm	Ø 300x106	Ø 350x106	Ø 350x106
Dimensions	4.1	Tilt of fork, forward/backward	$\alpha/\beta$	deg	4°/-2°	4°/-2°	4°/-2°
	4.2	Height, mast lowered	$h_1$	mm	See mast dimensions table		
	4.3	Free lift	$h_2$	mm	See mast dimensions table		
	4.4	Lift height	$h_{23}$	mm	See mast dimensions table		
		Height, mast extended	$h_4$	mm	See mast dimensions table		
	4.5	Height with navigation scanner	$h_{20}$	mm	2605/2955/3405	2667/3017/3467	2667/3017/3467
		<sup>n)</sup> Height eye navigation scanner	$h_{21}$	mm	2586/2936/3386	2648/2998/3448	2648/2998/3448
	4.7	Height of overhead guard (cab)	$h_6$	mm	2404	2466	2466
	4.10	Height support arms	$h_8$	mm	313	363	363
	4.15	Height of lowered forks	$h_{13}$	mm	55	55	60
	4.20	<sup>n)</sup> Width over forks <sup>3)</sup>	$b_5$	mm	252/698	272/642	277/647
		Length to face of forks	$l_2$	mm	See battery compartment table		
	4.21	Overall width	$b_1$	mm	1270/1470	1270/1470	1270/1470
	4.23	Fork dimensions	s/e/l	mm	40/100/1200 *	40/120/1200 *	45/125/1200 *
		Overall width over support arms (including scanners)	$b_2$	mm	1570/1770	1570/1770	1570/1770
	4.27	Distance between support arms	$b_4$	mm	900/1100	900/1100	900/1100
	4.28	Reach distance	$l_4$	mm	590	654	609
	4.31	Ground clearance, with load, below mast <sup>1)</sup>	$m_1$	mm	68 <sup>1)</sup>	68 <sup>1)</sup>	68 <sup>1)</sup>
4.32	Ground clearance, centre of wheelbase	$m_2$	mm	74	74	74	
4.37	Length across support arms	$l_7$	mm	1877	2031	2091	
Performance data	5.1a	Travel speed, with/without load Auto mode		km/h	7,2/7,2	7,2/7,2	7,2/7,2
	5.1b	Travel speed, with/without load Manual mode		km/h	7,2/7,2	7,2/7,2	7,2/7,2
	5.2	Lift speed, with/without load		m/s	0,36/0,68	0,43/0,68	0,37/0,64
	5.3	Lowering speed, with/without load		m/s	0,55/0,59	0,55/0,60	0,53/0,58
	5.4	Reach speed, with/without load		m/s	0,20/0,28	0,20/0,28	0,20/0,28
	5.8 <sup>n)</sup>	Max. gradeability, with/without load		%	10/15	10/15	7/12
	5.10	Service brake			Electric	Electric	Electric
Electric motor	6.1	Drive motor rating S2 60 min		kW	7,5	9,0	9,0
	6.2	Lift motor rating S3 15%		kW	11,0	15,0	15,0
	6.4	Battery voltage, nominal capacity $K_s$		V/Ah	48 / See battery compartment table		
	6.5	Battery weight		kg	See battery compartment table		
	6.6	Energy consumption acc. to VDI cycle <sup>2)</sup>		kWh/h	3,7 <sup>2)</sup>	4,7 <sup>2)</sup>	5,2 <sup>2)</sup>
Other	8.1	Type of drive control			Variable AC	Variable AC	Variable AC
	8.4	Sound level at driver's ear according to EN 12 053		dB(A)	66	66	66
		Safety of laser products				Class 1 (EC 60825-1)	

n) Note, new value/text in this version of data sheet.

\*) Other alternative are available.

1) Without support stud.

2) Based on RRE-H Contact your supplier for more information.

3) For the load camera usable WoF distance at FL 1200mm.

All data are based on table configuration. Other configurations may give other values.

Truck performance and dimensions are nominal and subject to tolerances.

Toyota Material Handling Manufacturing Sweden AB products and specifications are subject to change without notice.

# Battery dependent dimensions

Dimensions			RAE160				RAE200				RAE250						
Mast type			Triplex Hi-Lo - B				Triplex Hi-Lo - B				Triplex Hi-Lo - C						
	Battery compartment		mm	275 <sup>1)</sup>	347 <sup>2)</sup>	419	491	347 <sup>2)</sup>	419	491	347 <sup>2)</sup>	419	491	419	491	419	491
1.8 <sup>n)</sup>	Load distance, centre of support arm wheel to face of forks	x	mm	385	313	241	160	424	352	280	393	319	247	379	307	324	252
4.20 <sup>n)</sup>	Length to face of forks	$l_2$	mm	1321	1393	1465	1546	1411	1483	1555	1442	1516	1588	1516	1588	1571	1643
4.35	Turning radius Rotate on point.	$W_a$	mm	1715	1715	1715	1715	1845	1845	1845	1845	1845	1845	1903	1903	1903	1903
	Turning radius Rotate with radius x mm	$W_{aRx}$	mm														
6.4	Battery voltage (48V), nominal capacity $K_s$ , Lead-acid		Ah	465	620	775	930	620	775	930	620	775	930	775	930	775	930
6.4	Battery voltage (48V), nominal capacity $K_s$ , Li-Ion		Ah	n/a	448	448	448	448	448	448	448	448	448	448	448	448	448
6.5	Battery weight, min. - max.		kg	685-825	875-1030	1055-1235	1250-1440	875-1030	1055-1235	1250-1440	875-1030	1055-1235	1250-1440	1055-1235	1250-1440	1055-1235	1250-1440

1) Max lift height 7500mm 2) Max lift height 9500mm

## Mast dimensions

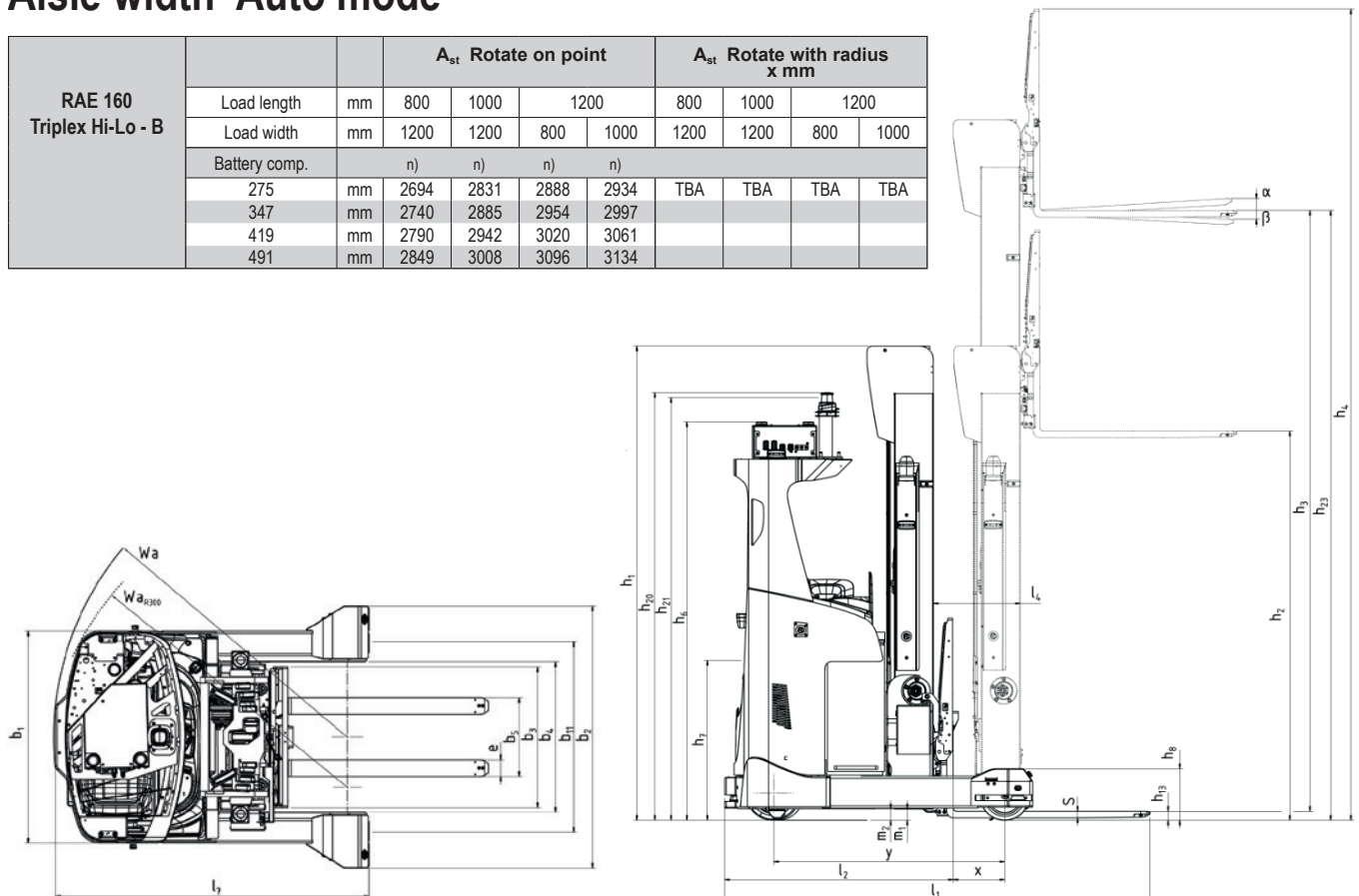
RAE160			Triplex Hi-Lo - B															
	Lift height	$h_{23}$	mm	4850	5400	5700	6300	7000	7500	8000	8500	9000	9500	10000				
4.4	Lift	$h_3$	mm	4795	5345	5645	6245	6945	7445	7945	8445	8945	9445	9945				
4.2	Height, mast lowered	$h_1$	mm	2249	2432	2532	2732	2966	3132	3299	3466	3632	3799	3966				
4.3	Free lift	$h_2$	mm	1741	1925	2025	2225	2459	2625	2791	2959	3125	3291	3459				
4.5	Height, mast extended	$h_4$	mm	6026	6576	6876	7476	8176	8676	9176	9676	10176	10676	11176				

RAE200			Triplex Hi-Lo - B											Triplex Hi-Lo - C	
	Lift height	$h_{23}$	mm	4850	5400	5700	6300	7000	7500	8000	8500	9000	9500	10000	
4.4	Lift	$h_3$	mm	4795	5345	5645	6245	6945	7445	7945	8445	8945	9445	9945	
4.2	Height, mast lowered	$h_1$	mm	2249	2432	2532	2732	2966	3132	3299	3466	3632	3799	3963	
4.3	Free lift	$h_2$	mm	1741	1925	2025	2225	2459	2625	2791	2959	3125	3291	3449	
4.5	Height, mast extended	$h_4$	mm	6026	6576	6876	7476	8176	8676	9176	9676	10176	10676	11176	

RAE250			Triplex Hi-Lo - C											Triplex Hi-Lo - D	
	Lift height	$h_{23}$	mm	4850	5400	5700	6300	7000	7500	8000	8500	9000	9500	10000	
4.4	Lift	$h_3$	mm	4795	5345	5645	6245	6945	7445	7945	8445	8945	9445	9945	
4.2	Height, mast lowered	$h_1$	mm	2247	2430	2530	2730	2936	3130	3297	3463	3630	3797	3963	
4.3	Free lift	$h_2$	mm	1733	1917	2017	2217	2449	2617	2783	2949	3117	3283	3449	
4.5	Height, mast extended	$h_4$	mm	6026	6576	6876	7476	8176	8676	9176	9676	10176	10676	11176	

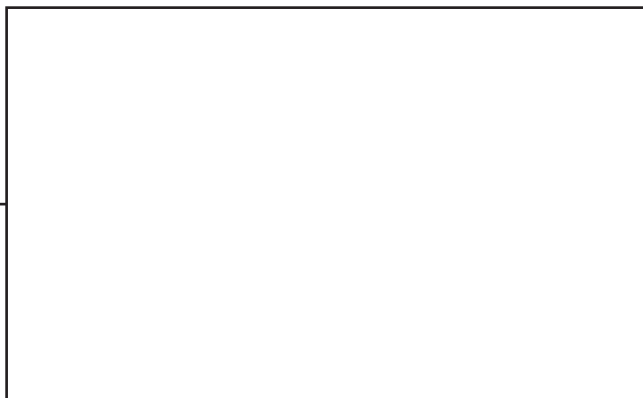
## Aisle width Auto mode

RAE 160 Triplex Hi-Lo - B			$A_{st}$ Rotate on point				$A_{st}$ Rotate with radius x mm			
	Load length	mm	800	1000	1200		800	1000	1200	
	Load width	mm	1200	1200	800	1000	1200	1200	800	1000
	Battery comp.		n)	n)	n)	n)	TBA	TBA	TBA	TBA
	275	mm	2694	2831	2888	2934				
	347	mm	2740	2885	2954	2997				
419	mm	2790	2942	3020	3061					
491	mm	2849	3008	3096	3134					



## Truck features:

- Automatic
  - loading and unloading
  - horizontal transport
  - vertical stacking
  - horizontal deep stacking
- Manual handling
- Laser precision navigation
- Personal safety protection drive direction
- Personal safety protection fork direction
- Personal safety protection on sides
- Obstacle detection system forward (optional)
- Obstacle detection system sides (optional)
- Blue LED warning light fork/drive direction (optional)
- Load presence and push detection
- Advanced vision aided load handling (optional)
- Multi load detection (optional)
- Information display



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