

Electric powered forklift 1.5 - 2.0 ton

TRIGO⁴⁸

3 wheel



Electric powered forklift 1.5 - 1.6 t

Truck specifications					8FBE15T	8FBEK16T	8FBE16T
Identification	1.1	Manufacturer			Toyota	Toyota	Toyota
	1.2	Model			8FBE15T	8FBEK16T	8FBE16T
	1.3	Drive			Electric	Electric	Electric
	1.4	Operator type			Rider seated	Rider seated	Rider seated
	1.5	Load capacity/rated load	Q	kg	1500	1600	1600
	1.6	Load centre	c	mm	500	500	500
	1.8	Load distance, centre of drive axle to fork	x	mm	317	317	317
	1.9	Wheelbase	y	mm	1305	1413	1521
	Weight	2.1	Service weight		kg	2976	3002
2.2		Axle load, with load, front/rear		kg	3953/523	4092/510	4097/484
2.3		Axle load, without load, front/rear		kg	1451/1525	1508/1494	1584/1397
Tyres	3.1	Tyre - pneumatic (P), pneumatic shaped cushion (SE), solid rubber (R)			SE	SE	SE
	3.2	Tyre size, front			18x7-8	18x7-8	18x7-8
	3.3	Tyre size, rear			15x4.1/2x8	15x4.1/2x8	15x4.1/2x8
	3.5	Wheels, number front/rear (x = driven wheels)			2x/2	2x/2	2x/2
	3.6	Track width, front	b ₁₀	mm	905	905	905
	3.7	Track width, rear	b ₁₁	mm	180,6	180,6	180,6
	Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β	deg	5/7	5/7
4.2		Height, mast lowered	h ₁	mm	2120	2120	2120
4.3		Free lift	h ₂	mm	115	115	115
4.4		Lift	h ₃	mm	3300	3300	3300
		Lift height	h ₂₃	mm	3335	3335	3335
4.5		Height, mast extended	h ₄	mm	3870	3870	3870
4.7		Height of overhead guard (cab)	h ₆	mm	2055	2055	2055
4.8		Seat height/stand height	h ₇	mm	954	954	954
4.12		Coupling height	h ₁₀	mm	537	537	537
4.19		Overall length	l ₁	mm	2772	2880	2988
4.20		Length to face of forks	l ₂	mm	1772	1880	1988
4.21		Overall width	b ₁	mm	1060	1060	1060
4.22		Fork dimensions	s/e/l	mm	35/100/1000	35/100/1000	35/100/1000
4.23		Fork carriage DIN 15 173, class/type A, B			IIA	IIA	IIA
4.24		Fork-carriage width	b ₃	mm	920	920	920
4.31		Ground clearance, with load, below mast	m ₁	mm	80	80	80
4.32		Ground clearance, centre of wheelbase	m ₂	mm	90	90	90
4.33		Aisle width for pallets 1000x1200 crossways	A _{st}	mm	3102	3210	3318
4.34	Aisle width for pallets 800x1200 lengthways	A _{st}	mm	3223	3331	3440	
4.35	Turning radius	W _a	mm	1455	1563	1671	
4.36	Internal turning radius	b ₁₃	mm	0	0	0	
Performance data	5.1	Travel speed, with/without load		km/h	16/16	16/16	16/16
	5.2	Lift speed, with/without load		m/s	0,44/0,61	0,43/0,61	0,43/0,61
	5.3	Lowering speed, with/without load		m/s	0,53/0,55	0,53/0,55	0,53/0,55
	5.5	Drawbar pull, with/without load		N	5068/5158	5041/5149	5044/5153
	5.6	Max. drawbar pull, with/without load		N	9519/9424	9491/9415	9495/9419
	5.7	Gradeability, with/without load		%	16,9/22,0	16,3/23,4	16,3/25,3
	5.8	Max. gradeability, with/without load		%	23,1/22,00	22,2/23,4	22,3/25,3
	5.9	Acceleration time, with/without load		s	4,5/4,1	4,6/4,2	4,6/4,2
	5.10	Service brake			Hydraulic	Hydraulic	Hydraulic
	Electric motor	6.1	Drive motor rating S2 60 min		kW	6x2	6x2
6.2		Lift motor rating S3 15%		kW	11,7	11,7	11,7
6.3		Battery acc. to DIN 43 531/35/36 A, B, C, no			43 531A	43 531A	43 531A
6.4		Battery voltage, nominal capacity K ₅		V/Ah	48/440-500	48/550-625	48/660-750
6.5		Battery weight		kg	708	856	1013
6.6		Energy consumption to VDI cycle		kWh/h	4,1	4,3	4,6
Other	8.1	Type of drive control			inverter MOSFET	inverter MOSFET	inverter MOSFET
	8.2	Operating pressure for attachments		bar	183	183	183
	8.3	Oil volume for attachments		l/min	41,3	41,3	41,3
	8.4	Sound level at the driver's ear according to EN 12 053		dB(A)	69,7	69,7	69,7

All data are based on table configuration. Other configurations may give other values.
Truck performance and dimensions are nominal and subject to tolerances.
Products and specifications are subject to change without notice.

Mast dimensions and rated capacities

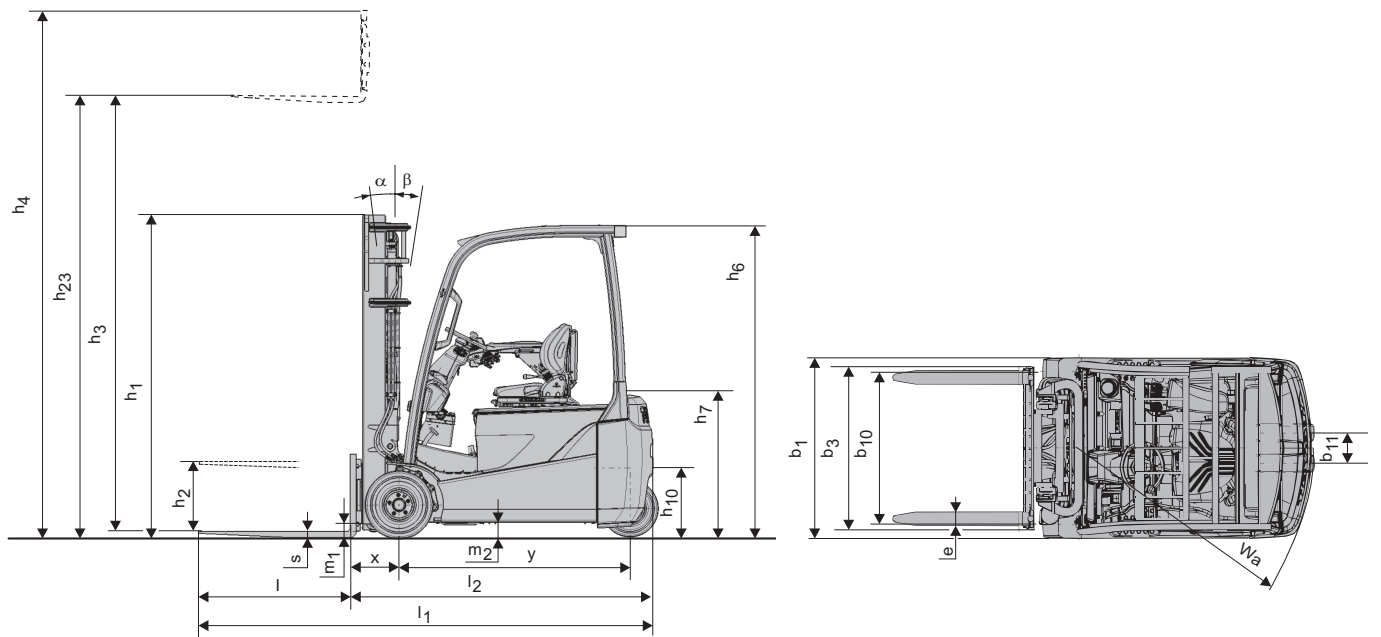
Model			V								FV				FW				FSV					FSW								
8FBE15T/8FBEK16T /8FBE16T	Lift height	h_{23}	3035	3335	3535	3735	4035	4535	5035	3035	3335	3535	3735	3035	3335	3535	3735	4335	4535	4735	5035	5535	6035	4335	4535	4735	5035	5535	6035	6535	7035	7535
	Lift	h_3	3000	3300	3500	3700	4000	4500	5000	3000	3300	3500	3700	3000	3300	3500	3700	4300	4500	4700	5000	5500	6000	4300	4500	4700	5000	5500	6000	6500	7000	7500
	Height, mast lowered	h_1	1970	2120	2220	2380	2570	2820	3070	1970	2120	2220	2380	2000	2150	2250	2350	1970	2040	2120	2220	2380	2570	1980	2050	2150	2250	2450	2600	2800	3000	3200
	Height, mast extended ¹⁾	h_4	3570	3870	4070	4270	4570	5070	5570	3580	3880	4080	4280	3555	3855	4055	4255	4845	5045	5245	5545	6045	6545	4845	5045	5245	5545	6045	6545	7045	7545	8045
	Height, mast extended ²⁾	h_4	4260	4560	4760	4960	5260	5760	6260	4260	4560	4760	4960	4260	4560	4760	4960	5560	5760	5960	6260	6760	7260	5560	5760	5960	6260	6760	7260	7760	8260	8760
	Free lift, without load backrest	h_2	80	80	80	80	80	80	80	1430	1580	1680	1840	1440	1590	1690	1790	1460	1530	1610	1710	1870	2060	1430	1500	1600	1700	1900	2050	2250	2450	2650
Free lift, with load backrest	h_2	80	80	80	80	80	80	80	745	895	995	1155	735	885	985	1085	745	815	895	995	1155	1345	715	785	885	985	1185	1335	1535	1735	1935	

1) Without load backrest

2) With load backrest; Height of standard load backrest is 1220 mm.

Pneumatic shaped cushion tyre			V								FV				FW				FSV					FSW								
8FBE15T	Tilt range, forward	deg	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Tilt range, backward	deg	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	5	7(5)	7(5)	7(5)	7(5)	7(5)	5	5	5	5
	Load capacity at 500 mm LC	kg	1500	1500	1500	1500	1500	1500	1450	1500	1500	1500	1500	1500	1500	1500	1500	1470	1440	1420	1390	1340	1150	1470	1440	1420	1390	1340	1150	850	650	450
8FBE16T	Tilt range, forward	deg	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Tilt range, backward	deg	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	5	7(5)	7(5)	7(5)	7(5)	7(5)	5	5	5	5
	Load capacity at 500 mm LC	kg	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1550	1530	1500	1450	1300	1600	1550	1530	1500	1450	1300	1000	750	550
8FBE16T	Tilt range, forward	deg	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Tilt range, backward	deg	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	5	7(5)	7(5)	7(5)	7(5)	7(5)	5	5	5	5
	Load capacity at 500 mm LC	kg	1600	1600	1600	1600	1600	1550	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1560	1510	1400	1300	1600	1600	1560	1510	1400	1300	1000	750	550	

Data in () are for when "Cabin Series" is selected (minimum front windshield).



Electric powered forklift 1.8 t

Truck specifications					8FBEK18T	8FBE18T
Identification	1.1	Manufacturer			Toyota	Toyota
	1.2	Model			8FBEK18T	8FBE18T
	1.3	Drive			Electric	Electric
	1.4	Operator type			Rider seated	Rider seated
	1.5	Load capacity/rated load	Q	kg	1800	1800
	1.6	Load centre	c	mm	500	500
	1.8	Load distance, centre of drive axle to fork	x	mm	317	317
	1.9	Wheelbase	Y	mm	1413	1521
	Weight	2.1	Service weight			3119
2.2		Axle load, with load, front/rear			4390/529	4391/544
2.3		Axle load, without load, front/rear			1497/1622	1571/1564
Tyres	3.1	Tyre - pneumatic (P), pneumatic shaped cushion (SE), solid rubber (R)			SE	SE
	3.2	Tyre size, front			18x7-8	18x7-8
	3.3	Tyre size, rear			140/55-9	140/55-9
	3.5	Wheels, number front/rear (x = driven wheels)			2x2	2x2
	3.6	Track width, front	b ₁₀	mm	905	905
	3.7	Track width, rear	b ₁₁	mm	186,2	186,2
	Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β	deg	5/7
4.2		Height, mast lowered	h ₁	mm	2120	2120
4.3		Free lift	h ₂	mm	115	115
4.4		Lift	h ₃	mm	3300	3300
		Lift height	h ₂₃	mm	3335	3335
4.5		Height, mast extended	h ₄	mm	3870	3870
4.7		Height of overhead guard (cab)	h ₆	mm	2055	2055
4.8		Seat height/stand height	h ₇	mm	954	954
4.12		Coupling height	h ₁₀	mm	543	543
4.19		Overall length	l ₁	mm	2880	2988
4.20		Length to face of forks	l ₂	mm	1880	1988
4.21		Overall width	b ₁	mm	1060	1060
4.22		Fork dimensions	s/e/l	mm	35/100/1000	35/100/1000
4.23		Fork carriage DIN 15 173, class/type A, B			IIA	IIA
4.24		Fork-carriage width	b ₃	mm	920	920
4.31		Ground clearance, with load, below mast	m ₁	mm	80	80
4.32		Ground clearance, centre of wheelbase	m ₂	mm	90	90
4.33		Aisle width for pallets 1000x1200 crossways	A _{st}	mm	3210	3318
4.34		Aisle width for pallets 800x1200 lengthways	A _{st}	mm	3331	3440
4.35		Turning radius	W _a	mm	1563	1671
4.36	Internal turning radius	b ₁₃	mm	0	0	
Performance data	5.1	Travel speed, with/without load		km/h	16/16	16/16
	5.2	Lift speed, with/without load		m/s	0,42/0,61	0,42/0,61
	5.3	Lowering speed, with/without load		m/s	0,53/0,55	0,53/0,55
	5.5	Drawbar pull, with/without load		N	4979/5126	4986/5133
	5.6	Max. drawbar pull, with/without load		N	9429/9392	9437/9399
	5.7	Gradeability, with/without load		%	15,0/22,1	15,1/24,1
	5.8	Max. gradeability, with/without load		%	20,5/22,1	20,7/24,1
	5.9	Acceleration time, with/without load		s	4,7/4,3	4,7/4,3
	5.10	Service brake			Hydraulic	Hydraulic
	Electric motor	6.1	Drive motor rating S2 60 min		kW	6x2
6.2		Lift motor rating S3 15%		kW	11,7	11,7
6.3		Battery acc. to DIN 43 531/35/36 A, B, C, no			43 531A	43 531A
6.4		Battery voltage, nominal capacity K ₅		V/Ah	48/550-625	48/660-750
6.5		Battery weight		kg	856	1013
6.6		Energy consumption to VDI cycle		kWh/h	4,7	5,0
Other	8.1	Type of drive control			inverter MOSFET	inverter MOSFET
	8.2	Operating pressure for attachments		bar	183	183
	8.3	Oil volume for attachments		l/min	41,3	41,3
	8.4	Sound level at the driver's ear according to EN 12 053		dB(A)	69,7	69,7

All data are based on table configuration. Other configurations may give other values.
Truck performance and dimensions are nominal and subject to tolerances.
Products and specifications are subject to change without notice.

Mast dimensions and rated capacities

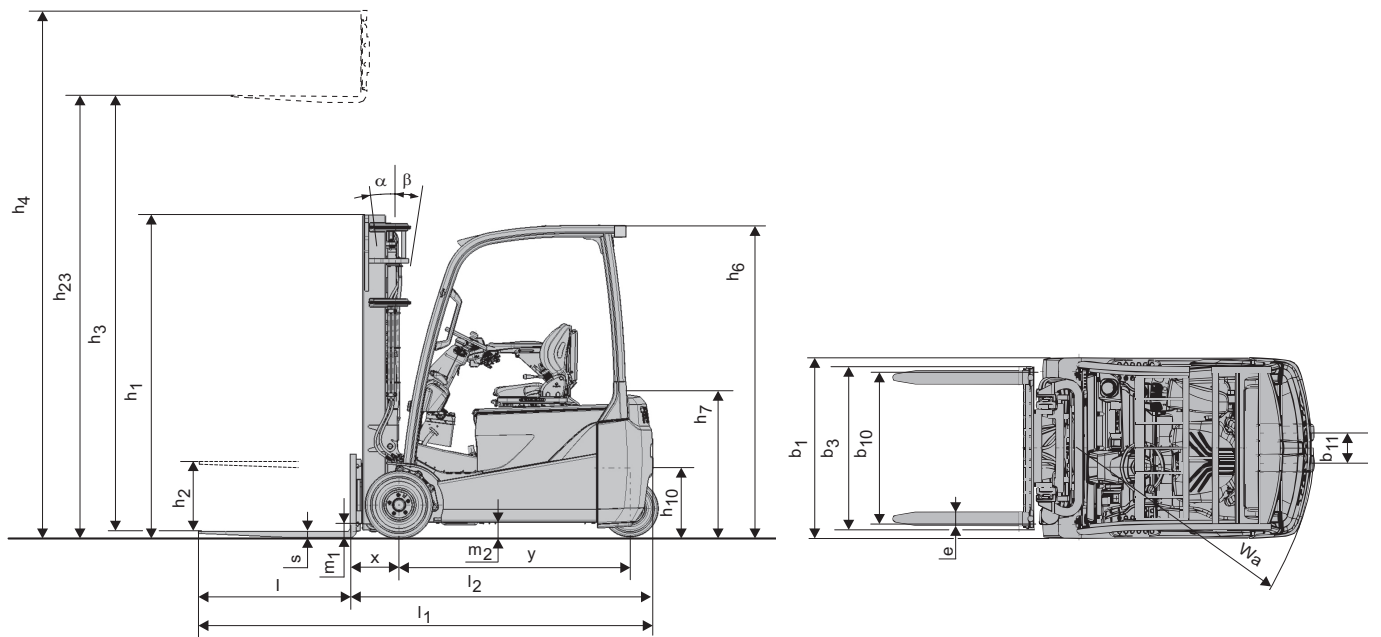
Model			V								FV				FW				FSV					FSW								
8FBE18T/8FBE18T	Lift height	h_{23}	3035	3335	3535	3735	4035	4535	5035	3035	3335	3535	3735	3035	3335	3535	3735	4335	4535	4735	5035	5535	6035	4335	4535	4735	5035	5535	6035	6535	7035	7535
	Lift	h_3	3000	3300	3500	3700	4000	4500	5000	3000	3300	3500	3700	3000	3300	3500	3700	4300	4500	4700	5000	5500	6000	4300	4500	4700	5000	5500	6000	6500	7000	7500
	Height, mast lowered	h_1	1970	2120	2220	2380	2570	2820	3070	1970	2120	2220	2380	2000	2150	2250	2350	1970	2040	2120	2220	2380	2570	1980	2050	2150	2250	2450	2600	2800	3000	3200
	Height, mast extended ¹⁾	h_4	3570	3870	4070	4270	4570	5070	5570	3580	3880	4080	4280	3555	3855	4055	4255	4845	5045	5245	5545	6045	6545	4845	5045	5245	5545	6045	6545	7045	7545	8045
	Height, mast extended ²⁾	h_4	4260	4560	4760	4960	5260	5760	6260	4260	4560	4760	4960	4260	4560	4760	4960	5560	5760	5960	6260	6760	7260	5560	5760	5960	6260	6760	7260	7760	8260	8760
	Free lift, without load backrest	h_2	80	80	80	80	80	80	80	1430	1580	1680	1840	1440	1590	1690	1790	1460	1530	1610	1710	1870	2060	1430	1500	1600	1700	1900	2050	2250	2450	2650
Free lift, with load backrest	h_2	80	80	80	80	80	80	80	745	895	995	1155	735	885	985	1085	745	815	895	995	1155	1345	715	785	885	985	1185	1335	1535	1735	1935	

1) Without load backrest

2) With load backrest; Height of standard load backrest is 1220 mm.

Pneumatic shaped cushion tyre			V								FV				FW				FSV					FSW								
8FBE18T	Tilt range, forward	deg	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Tilt range, backward	deg	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	5	7(5)	7(5)	7(5)	7(5)	7(5)	5	5	5	5
	Load capacity at 500 mm LC	kg	1800	1800	1800	1800	1800	1700	1600	1800	1800	1800	1800	1800	1800	1800	1800	1750	1720	1700	1620	1500	1350	1750	1720	1700	1620	1500	1350	1050	800	550
8FBE18T	Tilt range, forward	deg	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Tilt range, backward	deg	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	5	7(5)	7(5)	7(5)	7(5)	7(5)	5	5	5	5
	Load capacity at 500 mm LC	kg	1800	1800	1800	1800	1800	1750	1700	1800	1800	1800	1800	1800	1800	1800	1800	1700	1700	1650	1650	1500	1300	1750	1700	1650	1650	1500	1300	1000	800	550

Data in () are for when "Cabin Series" is selected (minimum front windshield).



Electric powered forklift 2.0 t

Truck specifications					8FBE20T
Identification	1.1	Manufacturer			Toyota
	1.2	Model			8FBE20T
	1.3	Drive			Electric
	1.4	Operator type			Rider seated
	1.5	Load capacity/rated load	Q	kg	2000
	1.6	Load centre	c	mm	500
	1.8	Load distance, centre of drive axle to fork	x	mm	317
	1.9	Wheelbase	y	mm	1521
Weight	2.1	Service weight			3342
	2.2	Axle load, with load, front/rear			4746/596
	2.3	Axle load, without load, front/rear			1619/1723
Tyres	3.1	Tyre - pneumatic (P), pneumatic shaped cushion (SE), solid rubber (R)			SE
	3.2	Tyre size, front			200/50-10
	3.3	Tyre size, rear			140/55-9
	3.5	Wheels, number front/rear (x = driven wheels)			2x2
	3.6	Track width, front	b ₁₀	mm	925
	3.7	Track width, rear	b ₁₁	mm	186,2
	Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β	deg
4.2		Height, mast lowered	h ₁	mm	2120
4.3		Free lift	h ₂	mm	115
4.4		Lift	h ₃	mm	3300
		Lift height	h ₂₃	mm	3335
4.5		Height, mast extended	h ₄	mm	3870
4.7		Height of overhead guard (cab)	h ₆	mm	2055
4.8		Seat height/stand height	h ₇	mm	962
4.12		Coupling height	h ₁₀	mm	543
4.19		Overall length	l ₁	mm	2988
4.20		Length to face of forks	l ₂	mm	1988
4.21		Overall width	b ₁	mm	1152
4.22		Fork dimensions	s/e/l	mm	35/120/1000
4.23		Fork carriage DIN 15 173, class/type A, B			IIA
4.24		Fork-carriage width	b ₃	mm	920
4.31		Ground clearance, with load, below mast	m ₁	mm	90
4.32		Ground clearance, centre of wheelbase	m ₂	mm	97
4.33		Aisle width for pallets 1000x1200 crossways	A _{st}	mm	3318
4.34		Aisle width for pallets 800x1200 lengthways	A _{st}	mm	3440
4.35		Turning radius	W _a	mm	1671
4.36	Internal turning radius	b ₁₃	mm	0	
Performance data	5.1	Travel speed, with/without load		km/h	16/16
	5.2	Lift speed, with/without load		m/s	0,38/0,54
	5.3	Lowering speed, with/without load		m/s	0,52/0,50
	5.5	Drawbar pull, with/without load		N	4839/5046
	5.6	Max. drawbar pull, with/without load		N	9145/9188
	5.7	Gradeability, with/without load		%	13,2/24,4
	5.8	Max. gradeability, with/without load		%	18,0/24,4
	5.9	Acceleration time, with/without load		s	4,7/4,3
	5.10	Service brake			Hydraulic
	Electric motor	6.1	Drive motor rating S2 60 min		kW
6.2		Lift motor rating S3 15%		kW	11,7
6.3		Battery acc. to DIN 43 531/35/36 A, B, C, no			43 531A
6.4		Battery voltage, nominal capacity K ₅		V/Ah	48/660-750
6.5		Battery weight		kg	1013
6.6		Energy consumption to VDI cycle		kWh/h	6,1
Other	8.1	Type of drive control			inverter MOSFET
	8.2	Operating pressure for attachments		bar	183
	8.3	Oil volume for attachments		l/min	41,3
	8.4	Sound level at the driver's ear according to EN 12 053		dB(A)	69,7

All data are based on table configuration. Other configurations may give other values.
Truck performance and dimensions are nominal and subject to tolerances.
Products and specifications are subject to change without notice.

Mast dimensions and rated capacities

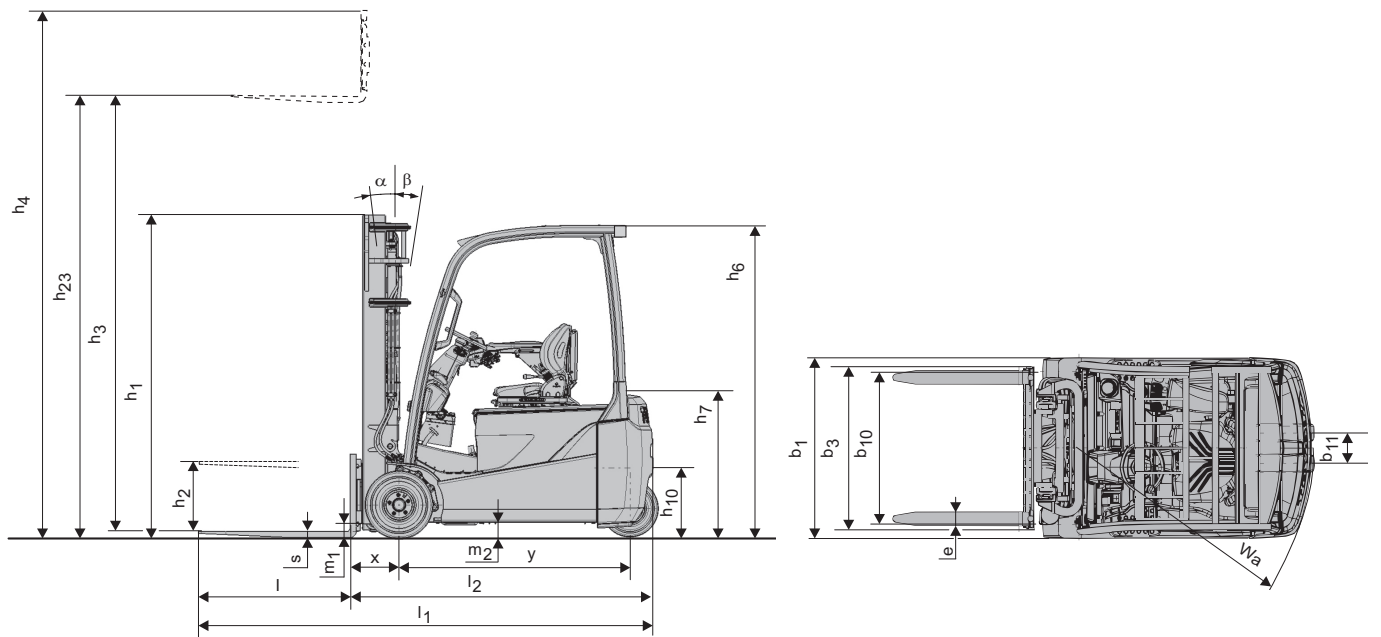
Model			V								FV				FW				FSV					FSW								
8FBE20T	Lift height	h_{23}	3035	3335	3535	3735	4035	4535	5035	3035	3335	3535	3735	3035	3335	3535	3735	4335	4535	4735	5035	5535	6035	4335	4535	4735	5035	5535	6035	6535	7035	7535
	Lift	h_3	3000	3300	3500	3700	4000	4500	5000	3000	3300	3500	3700	3000	3300	3500	3700	4300	4500	4700	5000	5500	6000	4300	4500	4700	5000	5500	6000	6500	7000	7500
	Height, mast lowered	h_1	1970	2120	2220	2380	2570	2820	3070	1970	2120	2220	2380	2000	2150	2250	2350	1970	2040	2120	2220	2380	2570	1980	2050	2150	2250	2450	2600	2800	3000	3200
	Height, mast extended ¹⁾	h_4	3570	3870	4070	4270	4570	5070	5570	3580	3880	4080	4280	3555	3855	4055	4255	4845	5045	5245	5545	6045	6545	4845	5045	5245	5545	6045	6545	7045	7545	8045
	Height, mast extended ²⁾	h_4	4260	4560	4760	4960	5260	5760	6260	4260	4560	4760	4960	4260	4560	4760	4960	5560	5760	5960	6260	6760	7260	5560	5760	5960	6260	6760	7260	7760	8260	8760
	Free lift, without load backrest	h_2	80	80	80	80	80	80	80	1430	1580	1680	1840	1440	1590	1690	1790	1460	1530	1610	1710	1870	2060	1430	1500	1600	1700	1900	2050	2250	2450	2650
Free lift, with load backrest	h_2	80	80	80	80	80	80	80	745	895	995	1155	735	885	985	1085	745	815	895	995	1155	1345	715	785	885	985	1185	1335	1535	1735	1935	

1) Without load backrest

2) With load backrest: Height of standard load backrest is 1220 mm.

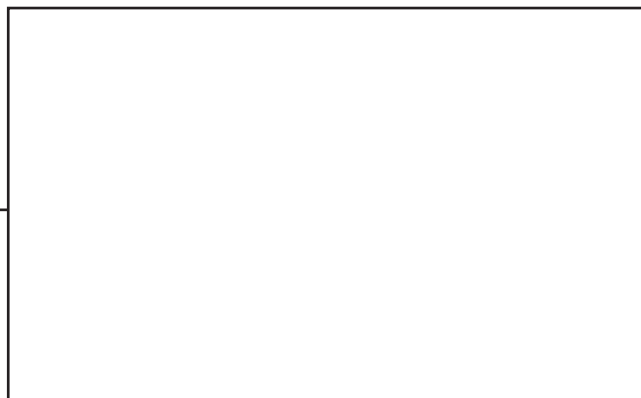
Pneumatic shaped cushion tyre			V								FV				FW				FSV					FSW								
8FBE20T	Tilt range, forward	deg	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Tilt range, backward	deg	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	7(5)	5	7(5)	7(5)	7(5)	7(5)	7(5)	5	5	5	5
	Load capacity at 500 mm LC	kg	2000	2000	2000	2000	2000	2000	1950	2000	2000	2000	2000	2000	2000	2000	2000	1950	1920	1900	1800	1650	1550	1950	1920	1900	1850	1750	1550	1250	1000	800

Data in () are for when "Cabin Series" is selected (minimum front windshield).



Standard equipments:

- Toyota SAS (System of Active Stability)
- Toyota AC² power system
- Operator presence sensing system (OPS)
- Toyota ORS seat (Operator Restraint System)
- Seat mounted hydraulic minilevers
- Direction switch on armrest
- Wide visible mast (V3300 mm)
- Long forks (length:1000 mm)
- Long forkbar (length: 920 mm)
- 3 way valves (A400)
- Automatic parking brake
- Wet disc brakes
- Wide brake pedal
- Pneumatic shaped cushion tyres
- Electric power steering
- Digital Multifunction display with wheel indicator
- Adjustable tilt steering column with memory function



TMHE-Toyota Material Handling Europe — 745555-040, version 7, 2018-11-12

TOYOTA

MATERIAL HANDLING