



# FB & FTB 1.25 - 2.0 technical specifications

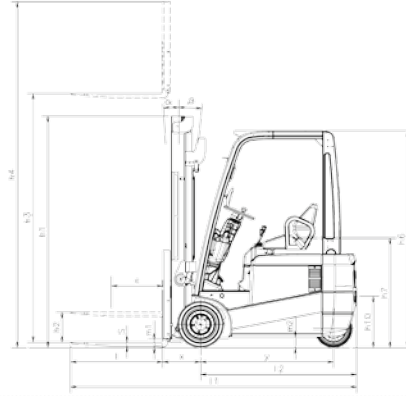
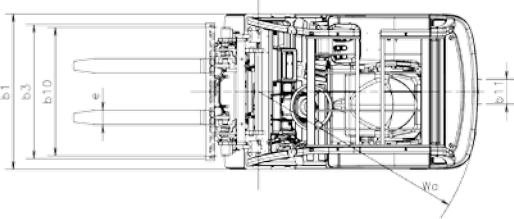


**STANDARD SPECIFICATIONS**

March 2014		Counterbalance trucks Designation according VDI 3586	Data sheet for materials handling equipment							VDI 2198 Registration note
		Manufacturers Data and Design Characteristics								
<b>CHARACTERISTICS</b>	1.1	Manufacturer	UniCarriers							
	1.2	Model name	FTB13-E1S	FTB15-E1S	FTB15-E1	FTB16-E1L	FTB18-E1	FTB18-E1L	FTB20-E1L	
		Model code	AS1N1L13H	AS1N1L15H	A1N1L15H	AG1N1L16H	A1N1L18H	AG1N1L18H	AG1N1L20H	
	1.3	Power unit	Battery	Battery	Battery	Battery	Battery	Battery	Battery	
	1.4	Operation	Sit	Sit	Sit	Sit	Sit	Sit	Sit	
	1.5	Load capacity	Q (t)	1.25	1.5	1.5	1.6	1.75	1.8	2.0
	1.6	Load centre	c (mm)	500	500	500	500	500	500	500
	1.8	Front overhang	x (mm)	365	365	365	365	370	370	370
	1.9	Wheel base	y (mm)	1195	1195	1300	1410	1300	1410	1410
<b>WEIGHTS</b>	2.1	Service weight (without battery)	kg	2730	3020	2920	3060	3120	3260	3400
	2.2	Axle load with load, front/rear	kg	3530/450	3995/525	3955/465	4160/500	4390/480	4590/470	4905/495
	2.3	Axle load without load, front/rear	kg	1370/1360	1405/1615	1455/1465	1575/1485	1465/1655	1675/1585	1665/1735
<b>WHEELS &amp; TIRES</b>	3.1	Tyres front/rear (C=Cushion,SE=superelastic, P=pneumatic) <sup>1</sup>	SE(C)/SE(C)							
	3.2	Tyre size, front	18x7-8	18x7-8	18x7-8	18x7-8	18x7-8	200/50-10	200/50-10	
	3.3	Tyre size, rear	15x4.5-8	140/55-9	15x4.5-8	140/55-9	140/55-9	140/55-9	140/55-9	
	3.5	Wheels, number front/rear (x=powered)	2x/2	2x/2	2x/2	2x/2	2x/2	2x/2	2x/2	
	3.6	Tread, front	b <sub>10</sub> (mm)	913 (930)	913 (930)	913 (930)	933 (930)	913 (930)	930 (930)	930 (930)
	3.7	Tread, rear	b <sub>11</sub> (mm)	176	176	176	176	176	176	176
	<b>DIMENSIONS</b>	4.1	Tilt Mast/carriage, forward/backward	a/b (°)	4/6	4/6	4/6	4/6	4/6	4/6
4.2		Height mast fully lowered	h <sub>1</sub> (mm)	1955	1955	1955	1955	1955	1955	1955
4.3		Free lift	h <sub>2</sub> (mm)	95	95	95	95	100	100	100
4.4		Lift height	h <sub>3</sub> (mm)	3000	3000	3000	3000	3000	3000	3000
4.5		Height mast fully extended	h <sub>4</sub> (mm)	3945	3945	3945	3945	3945	3945	3945
4.7		Overhead guard height	h <sub>6</sub> (mm)	2110	2110	2110	2110	2110	2110	2110
4.8		Seat height/Standing height	h <sub>7</sub> (mm)	957	957	957	957	957	957	957
4.12		Towing coupler height	h <sub>10</sub> (mm)	495	495	495	495	495	495	495
4.19		Overall length	l <sub>1</sub> (mm)	2685	2685	2790	2900	2795	2905	2905
4.20		Length to fork face	l <sub>2</sub> (mm)	1785	1785	1890	2000	1895	2005	2005
4.21		Overall width <sup>1</sup>	b <sub>1</sub> (mm)	1070 (1105)	1070 (1105)	1070 (1105)	1090 (1105)	1070 (1105)	1120 (1105)	1120 (1105)
4.22		Fork dimensions	s,e,l (mm)	35x100x900	35x100x900	35x100x900	35x100x900	40x100x900	40x100x900	40x100x900
4.23		Carriage DIN 15173, Class / Form A,B		2A	2A	2A	2A	2A	2A	2A
4.24		Carriage width	b <sub>3</sub> (mm)	920	920	920	920	920	920	920
4.31		Mast underclearance loaded	m <sub>1</sub> (mm)	75	75	75	75	75	75	75
4.32	Underclearance centre wheelbase	m <sub>2</sub> (mm)	100	100	100	100	100	100	100	
4.33	Right angle stacking aisle with pallet 1000x1200 across forks	Ast (mm)	3110	3110	3215	3325	3215	3330	3330	
4.34	Right angle stacking aisle with pallet 800x1200 across forks	Ast (mm)	2930	2930	3035	3145	3035	3150	3150	
4.35	Turning radius	Wa (mm)	1420	1420	1525	1635	1525	1635	1635	
<b>PERFORMANCE</b>	5.1	Travelling speed with/without load	km/h	13.5/13.5	13.5/13.5	13.5/13.5	15.0/16.0	13.5/13.5	15.0/16.0	15.0/16.0
	5.2	Lifting speed with/without load	mm/s	330/500	300/500	300/500	400/600	270/500	370/600	350/580
	5.3	Lowering speed with/without load	mm/s	500/500	500/500	500/500	500/500	500/500	500/500	500/500
	5.6	Drawbar pull, with/without load	kN	10.5/10.5	10.5/10.5	10.5/10.5	10.5/10.5	10.5/10.5	10.5/10.5	10.5/10.5
	5.8	Gradeability with/without load	%	24.1/34.8	20.8/30.9	21.3/31.2	20.4/30.4	19.1/29.6	17.9/27.8	16.1/25.6
	5.9	Acceleration with/without load	s	4.6/4.2	4.8/4.3	4.8/4.3	4.4/4.0	4.9/4.4	4.6/4.1	4.7/4.2
5.10	Service brake		Hydraulic/Electric							
<b>DRIVE</b>	6.1	Traction motor performance, 1hr. rating	kW	7.1 x2	7.1 x2	7.1 x2	7.1 x2	7.1 x2	7.1 x2	7.1 x2
	6.2	Lift motor performance, 20% rating	kW	14.5	14.5	14.5	14.6	14.5	14.6	14.6
	6.3	Battery according		DIN43531A						
	6.4	Battery voltage/rated capacity (5h) <sup>2</sup>	V/Ah	48/375	48/430	48/460	48/625	48/460	48/750	48/750
	6.5	Battery weight (Min-Max ±5%)	kg	520-765	650-765	675-900	900-1150	675-900	1050-1150	1050-1150
<b>OTHERS</b>	8.1	Type of drive control		AC TECH - MOS-FET inverter						
	8.2	Working pressure attachments	bar	120	120	120	120	120	120	120

<sup>1</sup> Figure in brackets refer to cushion tyres <sup>2</sup> Larger capacity batteries on request

## DIMENSIONS



## MAST SPECIFICATIONS & RATED CAPACITIES: FTB: 1.25 - 2.0 TONNE

Mast type	Mast name	Max. fork height mm <sup>1</sup>	Overall height			Free lift		Free lift		Tilt angle Forward/backward degrees	Load capacity <sup>2</sup> Load center 500 mm						
			Fully lowered mm <sup>1</sup>	Fully extended		Without backrest mm <sup>1</sup>	Std backrest mm <sup>1</sup>	Without backrest mm <sup>1</sup>	Std backrest mm <sup>1</sup>		1.25 tonne kg <sup>1</sup>	1.5 tonne <sup>3</sup> kg <sup>1</sup>	1.5 tonne kg <sup>1</sup>	1.6 tonne kg <sup>1</sup>	1.75 tonne kg <sup>1</sup>	1.8 tonne kg <sup>1</sup>	2.0 tonne kg <sup>1</sup>
				Without backrest mm <sup>1</sup>	Std backrest mm <sup>1</sup>												
TWO STAGE WIDE VIEW	2W270	2700	1805	3335	3645	95	95	100	100	4-6	1250	1500	1500	1600	1750	1800	2000
	2W300	3000	1955	3635	3945	95	95	100	100	4-6	1250	1500	1500	1600	1750	1800	2000
	2W330	3300	2105	3935	4245	95	95	100	100	4-6	1250	1500	1500	1600	1750	1800	2000
	2W350	3500	2240	4135	4445	95	95	100	100	4-6	1250	1500	1500	1600	1750	1800	2000
	2W370	3700	2365	4335	4645	95	95	100	100	4-6	1250	1500	1500	1600	1750	1800	2000
	2W400	4000	2555	4635	4945	95	95	100	100	4-6	1250	1500	1500	1600	1700	1750	1950
	2W450	4500	2805	5135	5445	95	95	100	100	4-6	1150	1450	1450	1500	1600	1650	1850
	2W500	5000	3055	5635	5945	95	95	100	100	4-6	1100	1400	1400	1450	1500	1550	1750
TWO STAGE FULL FREE	2F270	2700	1805	3335	3645	1205	895	1210	900	4-6	1250	1500	1500	1600	1750	1800	2000
	2F300	3000	1955	3635	3945	1355	1045	1360	1050	4-6	1250	1500	1500	1600	1750	1800	2000
	2F330	3300	2105	3935	4245	1505	1195	1510	1200	4-6	1250	1500	1500	1600	1750	1800	2000
	2F350	3500	2240	4135	4445	1640	1330	1645	1335	4-6	1250	1500	1500	1600	1750	1800	2000
	2F370	3700	2365	4335	4645	1765	1455	1770	1460	4-6	1250	1500	1500	1600	1700	1750	1950
	2F400	4000	2555	4635	4945	1955	1645	1960	1650	4-6	1200	1500	1500	1550	1650	1700	1900
THREE STAGE FULL FREE	3F385	3850	1805	4485	4795	1205	895	1210	900	5-5	1200	1500	1500	1550	1650	1700	1900
	3F430	4300	1955	4935	5245	1355	1045	1360	1050	5-5	1150	1450	1450	1500	1600	1650	1850
	3F475	4750	2105	5385	5695	1505	1195	1510	1200	5-5	1050	1400	1400	1450	1550	1600	1750
	3F515	5150	2240	5785	6100	1640	1330	1645	1335	5-5	950	1300	1300	1350	1450	1500	1650
	3F550	5500	2365	6135	6445	1765	1455	1770	1460	5-5	950	1200	1200	1300	1250	1400	1550
	3F600	6000	2555	6635	6945	1955	1645	1960	1650	5-5	800	900	900	1250	950	1350	1450
	3F650	6500	2805	7135	7445	2205	1895	2210	1900	5-5	550	700	750	1150	n.a.	1300	1350
	3F700	7000	3055	7635	7945	2455	2145	2460	2150	5-5	350	500	550	1100	n.a.	1200	1200
THREE STAGE FULL FREE WIDE VIEW	3V360	3600	1805	4275	4510	1165	930	1170	935	5-5	1150	1400	1400	1550	1500	1700	1850
	3V405	4050	1955	4725	4960	1315	1080	1320	1085	5-5	1100	1350	1350	1500	1500	1650	1800
	3V450	4500	2105	5175	5410	1465	1230	1470	1235	5-5	1050	1300	1300	1450	1500	1600	1700
	3V490	4900	2240	5580	5810	1595	1365	1600	1370	5-5	950	1250	1250	1350	1450	1500	1650
	3V525	5250	2365	5925	6160	1725	1490	1730	1495	5-5	950	1200	1200	1300	1250	1400	1550
	3V575	5750	2555	6425	6660	1915	1680	1920	1685	5-5	800	900	900	1250	950	1300	1450
	3V633	6330	2805	7005	7240	2165	1930	2170	1935	5-5	550	700	750	1150	n.a.	1200	1350
	3V688	6880	3055	7555	7790	2415	2180	2420	2185	5-5	350	500	550	1100	n.a.	1150	1200

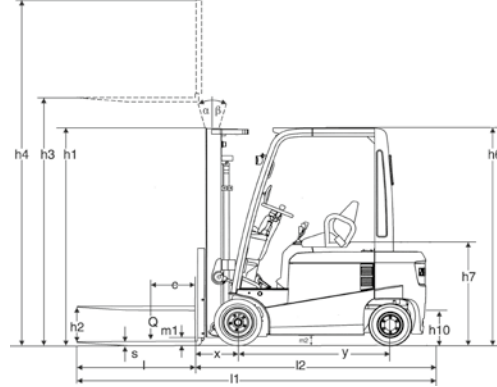
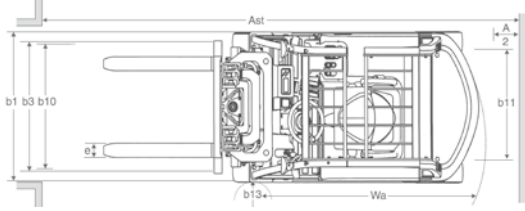
<sup>1</sup> 1 inch = 25.4 mm    <sup>1</sup>kg = 0.4536 lb    <sup>2</sup> With superelastic tires    <sup>3</sup> Short wheelbase

**STANDARD SPECIFICATIONS**

March 2014		Counterbalance trucks Designation according VDI 3586	Data sheet for materials handling equipment			VDI 2198 Registration note
		Manufacturers Data and Design Characteristics				
<b>CHARACTERISTICS</b>	1.1	Manufacturer	UniCarriers			
	1.2	Model name	FB16-E1	FB18-E1	FB20-E1	
		Model code	JAG1N1L16H	JAG1N1L18H	JAG1N1L20H	
	1.3	Power unit: Electric, Diesel, Gasoline, LPG, others	Electric	Electric	Electric	
	1.4	Operation: Sit, Hand, Pedestrian, Standing, Order picking	Sit	Sit	Sit	
	1.5	Load capacity	Q (t)	1.6	1.8	2.0
	1.6	Load centre	c (mm)	500	500	500
	1.8	Front overhang	x (mm)	365	370	370
	1.9	Wheel base	y (mm)	1450	1450	1450
<b>WEIGHTS</b>	2.1	Service weight (without battery)	kg	3110	3420	3550
	2.2	Axle load with load, front/rear	kg	4105/605	4530/690	4835/715
	2.3	Axle load without load, front/rear	kg	1545/1565	1645/1775	1630/1920
<b>WHEELS &amp; TIRES</b>	3.1	Tyres front/rear (C=Cushion,SE=superelastic, P=pneumatic)	SE/SE			
	3.2	Tyre size, front	18x7-8	200/50-10	200/50-10	
	3.3	Tyre size, rear	16x6-8	16x6-8	16x6-8	
	3.5	Wheels, number front/rear (x=powered)	2x/2	2x/2	2x/2	
	3.6	Tread, front	b <sub>10</sub> (mm)	933	930	930
	3.7	Tread, rear	b <sub>11</sub> (mm)	928	928	928
	<b>DIMENSIONS</b>	4.1	Tilt Mast/carriage, forward/backward	a/b (°)	4/6	4/6
4.2		Height mast fully lowered	h <sub>1</sub> (mm)	1955	1955	1955
4.3		Free lift	h <sub>2</sub> (mm)	95	100	100
4.4		Lift height	h <sub>3</sub> (mm)	3000	3000	3000
4.5		Height mast fully extended	h <sub>4</sub> (mm)	3945	3945	3945
4.7		Overhead guard height	h <sub>6</sub> (mm)	2110	2110	2110
4.8		Seat height/Standing height	h <sub>7</sub> (mm)	957	957	957
4.12		Towing coupler height	h <sub>10</sub> (mm)	211	211	211
4.19		Overall length	l <sub>1</sub> (mm)	3055	3060	3080
4.20		Length to fork face	l <sub>2</sub> (mm)	2155	2160	2180
4.21		Overall width <sup>1</sup>	b <sub>1</sub> (mm)	1090	1120	1120
4.22		Fork dimensions	s,e,l (mm)	35x100x900	40x100x900	40x100x900
4.23		Carriage DIN 15173, Class / Form A,B		2A	2A	2A
4.24		Carriage width	b <sub>3</sub> (mm)	920	920	920
4.31		Mast underclearance loaded	m <sub>1</sub> (mm)	75	75	75
4.32	Underclearance centre wheelbase	m <sub>2</sub> (mm)	100	100	100	
4.33	Right angle stacking aisle with pallet 1000x1200 across forks	Ast (mm)	3475	3480	3500	
4.34	Right angle stacking aisle with pallet 800x1200 across forks	Ast (mm)	3275	3280	3300	
4.35	Turning radius	Wa (mm)	1910	1910	1930	
<b>PERFORMANCE</b>	5.1	Travelling speed with/without load	km/h	15/16	15/16	15/16
	5.2	Lifting speed with/without load	mm/s	400/600	370/600	350/580
	5.3	Lowering speed with/without load	mm/s	500/500	500/500	500/500
	5.6	Maximum drawbar pull, with/without load, 3 minute rating	kN	10500	10500	10500
	5.8	Maximum gradeability, with/without load, 5 minute rating	%	19/22	17.5/21.5	15/20.5
	5.9	Acceleration with/without load	s	4.5/4.1	4.6/4.1	4.7/4.2
	5.10	Service brake		Hydraulic/Electric		
<b>DRIVE</b>	6.1	Traction motor performance, 1hr. rating	kW	7.1 x2	7.1 x2	7.1 x2
	6.2	Lift motor performance, 20% rating	kW	14.6	14.6	14.6
	6.3	Battery according		DIN43531A		
	6.4	Battery voltage/rated capacity (5h) <sup>1</sup>	V/Ah	48/575	48/750	48/750
	6.5	Battery weight (Min-Max ±5%)	kg	900-1150	1050-1150	1050-1150
<b>OTHERS</b>	8.1	Type of drive control	AC TECH - MOS-FET inverter			
	8.2	Working pressure attachments	bar	120	120	120

<sup>1)</sup> Larger capacity batteries on request

## DIMENSIONS



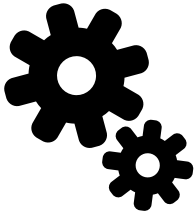
## MAST SPECIFICATIONS & RATED CAPACITIES: FB: 1.6 - 2.0 TONNE

Mast type	Mast name	Maximum fork height mm <sup>1</sup>	Overall height			Free lift				Tilt angle Forward/backward degrees	Load capacity <sup>2</sup> Load center 500 mm		
			Fully lowered mm <sup>1</sup>	Fully extended		FB16-E1		FB18-E1 & FB20-E1			FB16-E1 16 tonne kg <sup>1</sup>	FB18-E1 18 tonne kg <sup>1</sup>	FB20-E1 20 tonne kg <sup>1</sup>
				Without backrest mm <sup>1</sup>	Std backrest mm <sup>1</sup>	Without backrest mm <sup>1</sup>	Std backrest mm <sup>1</sup>	Without backrest mm <sup>1</sup>	Std backrest mm <sup>1</sup>				
TWO STAGE WIDE VIEW	2W270	2700	1805	3335	3645	95	95	100	100	4-6	1600	1800	2000
	2W300	3000	1955	3635	3945	95	95	100	100	4-6	1600	1800	2000
	2W330	3300	2105	3935	4245	95	95	100	100	4-6	1600	1800	2000
	2W350	3500	2240	4135	4445	95	95	100	100	4-6	1600	1800	2000
	2W370	3700	2365	4335	4645	95	95	100	100	4-6	1600	1800	2000
	2W400	4000	2555	4635	4945	95	95	100	100	4-6	1600	1750	1950
	2W450	4500	2805	5135	5445	95	95	100	100	4-6	1500	1650	1850
	2W500	5000	3055	5635	5945	95	95	100	100	4-6	1450	1550	1750
TWO STAGE FULL FREE	2F270	2700	1805	3335	3645	1205	895	1210	900	4-6	1600	1800	2000
	2F300	3000	1955	3635	3945	1355	1045	1360	1050	4-6	1600	1800	2000
	2F330	3300	2105	3935	4245	1505	1195	1510	1200	4-6	1600	1800	2000
	2F350	3500	2240	4135	4445	1640	1330	1645	1335	4-6	1600	1800	2000
	2F370	3700	2365	4335	4645	1765	1455	1770	1460	4-6	1600	1750	1950
	2F400	4000	2555	4635	4945	1955	1645	1960	1650	4-6	1550	1700	1900
THREE STAGE FULL FREE	3F385	3850	1805	4485	4795	1205	895	1210	900	5-5	1550	1700	1900
	3F430	4300	1955	4935	5245	1355	1045	1360	1050	5-5	1500	1650	1850
	3F475	4750	2105	5385	5695	1505	1195	1510	1200	5-5	1450	1600	1750
	3F515	5150	2240	5785	6100	1640	1330	1645	1335	5-5	1350	1500	1650
	3F550	5500	2365	6135	6445	1765	1455	1770	1460	5-5	1300	1400	1550
	3F600	6000	2555	6635	6945	1955	1645	1960	1650	5-5	1250	1350	1450
	3F650	6500	2805	7135	7445	2205	1895	2210	1900	5-5	1150	1300	1350
	3F700	7000	3055	7635	7945	2455	2145	2460	2150	5-5	1100	1200	1200
THREE STAGE FULL FREE WIDE VIEW	3V360	3600	1805	4275	4510	1165	930	1170	935	5-5	1550	1700	1850
	3V405	4050	1955	4725	4960	1315	1080	1320	1085	5-5	1500	1650	1800
	3V450	4500	2105	5175	5410	1465	1230	1470	1235	5-5	1450	1600	1700
	3V490	4900	2240	5580	5810	1595	1365	1600	1370	5-5	1350	1500	1650
	3V525	5250	2365	5925	6160	1725	1490	1730	1495	5-5	1300	1400	1550
	3V575	5750	2555	6425	6660	1915	1680	1920	1685	5-5	1250	1300	1450
	3V633	6330	2805	7005	7240	2165	1930	2170	1935	5-5	1150	1200	1350
	3V688	6880	3055	7555	7790	2415	2180	2420	2185	5-5	1100	1150	1200

<sup>1</sup> 1 inch = 25.4 mm    1kg = 0.4536 lb    <sup>2</sup> With superelastic tires



Especially developed to provide our customers with the most reliable and efficient technology in daily operation, TCM's counterbalanced trucks have been designed to meet the most challenging requirements even in the most demanding environments.



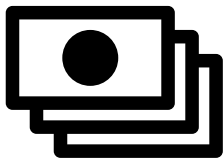
## RELIABLE

Proven technology paired with practical features: TCM stands for a unique mixture of customer-oriented solutions you can count on.



## DURABLE

Harsh conditions can be a challenge. For TCM trucks, it's their natural habitat. 24 hours a day, 7 days a week.



## ECONOMICAL

Balancing economy and environmentally friendly performance in TCM trucks has always been a top priority, facilitating a profitable and energy-efficient deployment of our high-end material handling solutions.

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TCM Corporation reserves the right to make any changes without notice concerning colours, equipment or specifications detailed in this brochure, or to discontinue individual models. The colours of vehicles delivered may differ slightly from those in this brochure. The specifications vary for different countries depending on local market conditions. Please consult your local dealer to ensure that the vehicle delivered accords with your expectations. All values are determined based on the standard condition and may vary, due to motor and system tolerances, condition of the truck and operational conditions. Some equipment shown on photos are optional.