

TCM

FHB 2.0 - 3.0 technical specifications

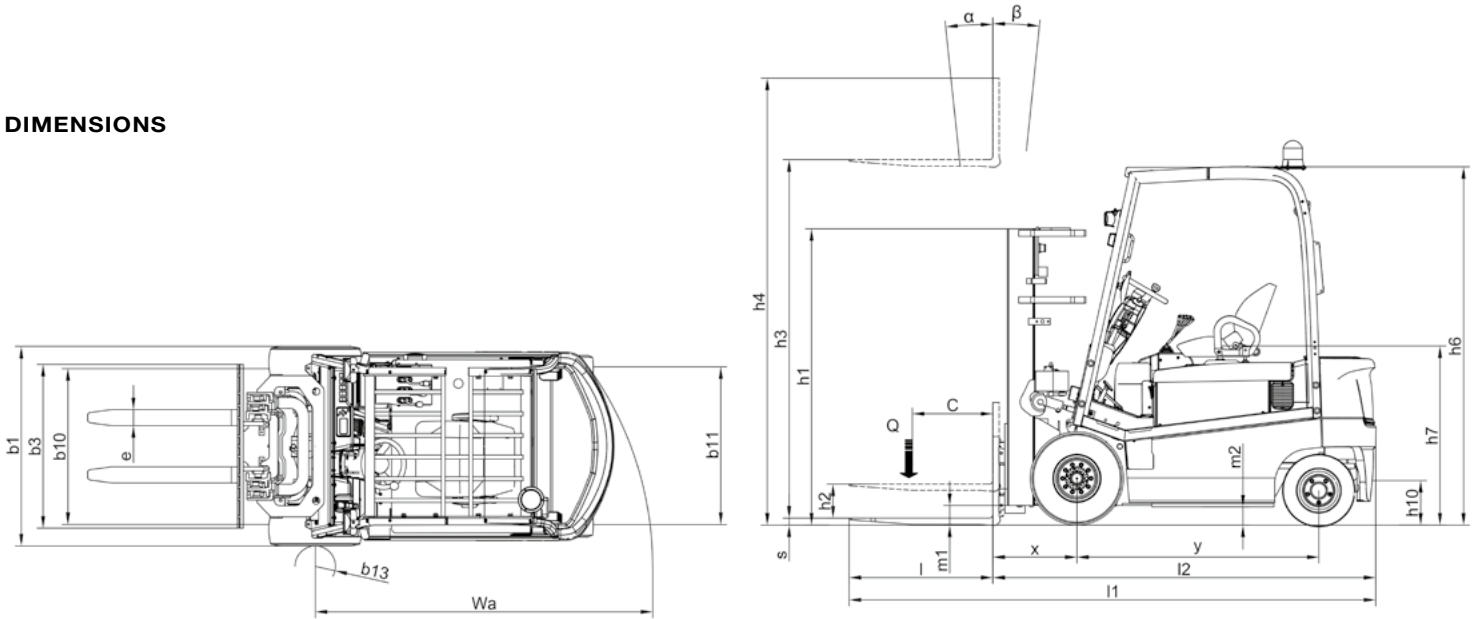


STANDARD SPECIFICATIONS

September 2013		Counterbalance trucks Designation according VDI 3586	Data sheet for materials handling equipment					VDI 2198 Registration note	
		Manufacturers Data and Design Characteristics							
CHARACTERISTICS	1.1	Manufacturer	UniCarriers						
	1.2	Model name	FHB20-E1	FHB25-E1	FHB25-E1L	FHB30-E1	FHB30H-E1		
		Model variation	1Q2L20Q	1Q2L25Q	G1Q2L25Q	G1Q2L30Q	G1Q2L30Q		
	1.3	Power unit: Electric, Diesel, Gasoline, LPG, others	Electric	Electric	Electric	Electric	Electric		
	1.4	Operation: Seat, Hand, Pedestrian, Standing, Order picking	Seat	Seat	Seat	Seat	Seat		
	1.5	Load capacity	Q (t)	2.0	2.5	2.5	3.0	3.0	
	1.6	Load centre	c (mm)	500	500	500	500	500	
	1.8	Front overhang	x (mm)	465	465	465	475	475	
	1.9	Wheel base	y (mm)	1515	1515	1660	1660	1660	
WEIGHTS	2.1	Service weight	kg	4395	4720	4785	5175	5344	
	2.2	Axle load with load, front/rear	kg	5580/815	6360/860	6440/845	7295/880	7474/995	
	2.3	Axle load without load, front/rear	kg	2305/2090	2270/2450	2485/2300	2530/2645	2463/2966	
WHEELS & TIRES	3.1	Tyres front/rear (C=Cushion,SE=superelastic,P=pneumatic)	SE/SE						
	3.2	Tyre size, front	23 x 9-10	23 x 9-10	23 x 9-10	23 x 10-12	23x10-12		
	3.3	Tyre size, rear	18 x 7-8	18 x 7-8	18 x 7-8	18 x 7-8	18x7-8		
	3.5	Wheels, number front/rear (x=powered)	2x/2	2x/2	2x/2	2x/2	2x/2		
	3.6	Tread, front	b10 (mm)	975	975	975	1015	1015	
	3.7	Tread, rear	b11 (mm)	970	970	970	970	970	
	DIMENSIONS	4.1	Tilt Mast/carriage, forward/backward	α/β (°)	5/8	5/8	5/8	5/8	5/8
4.2		Height mast fully lowered	h_1 (mm)	1995	1996	1997	1995	1995	
4.3		Free lift	h_2 (mm)	150	151	152	155	155	
4.4		Lift height	h_3 (mm)	3000	3001	3002	3003	3003	
4.5		Height mast fully extended	h_4 (mm)	4255	4255	4255	4255	4255	
4.7		Overhead guard height	h_6 (mm)	2235 ¹⁾	2235 ¹⁾	2235 ¹⁾	2235 ¹⁾	2235 ¹⁾	
4.8		Seat height/Standing height	h_7 (mm)	1055	1055	1055	1055	1055	
4.12		Towing coupler height	h_{10} (mm)	230	230	230	230	230	
4.19		Overall length	l_1 (mm)	3440	3440	3585	3595	3625	
4.20		Length to fork face	l_2 (mm)	2340	2340	2485	2495	2525	
4.21		Overall width	b_1 (mm)	1180	1180	1180	1250	1250	
4.22		Fork dimensions	s,e,l (mm)	40x100x1100	40x100x1100	40x100x1100	45x100x1100	45x100x1100	
4.23		Carriage DIN 15173, Class / Form A,B		2A	2A	2A	3A	3A	
4.24		Carriage width	b_3 (mm)	1020	1020	1020	1020	1020	
4.31		Mast underclearance loaded	m_1 (mm)	115	115	115	115	115	
4.32		Underclearance centre wheelbase	m_2 (mm)	105	105	105	105	105	
4.33		Right angle stacking aisle with pallet 1000x1200 crossways	Ast (mm)	3655	3655	3805	3815	3835	
4.34	Right angle stacking aisle with pallet 800x1200 lengthways	Ast (mm)	3855	3855	4005	4015	4035		
4.35	Turning radius	Wa (mm)	1990	1990	2140	2140	2170		
4.36	Internal turning radius	b13 (mm)	127	127	182	182	182		
PERFORMANCE	5.1	Travelling speed with/without load	km/h	20.5/21	20/21	20/21	18.5/21	18.5/21.0	
	5.2	Lifting speed with/without load	m/s	0.51/0.65	0.47/0.65	0.47/0.65	0.45/0.55	0.45/0.55	
	5.3	Lowering speed with/without load	m/s	0.50/0.50	0.50/0.50	0.50/0.50	0.50/0.50	0.50/0.50	
	5.6	Maximum drawbar pull, with/without load	N	15735/15956	15735/15956	15735/15956	15735/15956	12155/12326	
	5.8	Maximum gradeability, with/without load	%	19/30	16/27	16/27	14/24	14/24	
	5.9	Acceleration time, with/witout load	s	4.8/4.2	5.0/4.3	5.0/4.4	5.0/4.7	5.0/4.7	
	5.10	Service brake		Hydraulic/Electric					
	DRIVE	6.1	Traction motor performance, S2 60min rating	kW	9.9	9.9	9.9	9.9	9.9
		6.2	Lift motor performance, S3 15% rating	kW	16.4	16.4	16.4	16.4	16.4
		6.3	Battery according DIN 43531/35/36 A,B,C,no		DIN43536A				
6.4		Battery voltage/rated capacity (5h)	V/Ah	80/480 ²⁾	80/480 ²⁾	80/600 ²⁾	80/600 ²⁾	80/600 ²⁾	
6.5		Battery weight ($\pm 5\%$)	kg	1547	1547	1872	1872	1872	
6.6		Energy consumption according to VDI 45 cycles	kWh/h	6.1	7.1	7.1	8.0	8.0	
OTHERS	8.1	Type of drive control	UniCarriers AC TECH - MOS-FET inverter						
	8.2	Working pressure attachments	bar	127	127	127	127	127	
	8.3	Oil flow for attachments	L/min	41.5	41.5	41.5	41.5	41,5	
	8.4	Sound pressure level at driver's seat	dB (A)	<70	<70	<70	<70	<70	

¹⁾ Low overhead guard available: h6 = 2120 mm. ²⁾ Other battery capacities available on request.

DIMENSIONS



MAST SPECIFICATIONS & LOAD CAPACITIES: FHB: 2.0 - 2.5 TONNE

Mast type	Mast name	Maximum fork height mm ¹	Overall height			Free lift		Tilt angle Forward/ backward degrees	Load capacity ² Load center 500 mm	
			Fully lowered mm ¹	Fully extended		Without backrest mm ¹	Std backrest mm ¹		FHB20-E1 kg ¹	FHB25-E1 & FHB25-E1L kg ¹
				Without backrest mm ¹	Std backrest mm ¹					
TWO STAGE WIDE VIEW	2W300	3000	1995	3645	4045	150	150	5/8	2000	2500
	2W330	3300	2145	3945	4345	150	150	5/8	2000	2500
	2W350	3500	2280	4145	4545	150	150	5/8	2000	2500
	2W370	3700	2405	4345	4745	150	150	5/8	2000	2500
	2W400	4000	2595	4645	5045	150	150	5/8	2000	2500
	2W450	4500	2845	5145	5545	150	150	5/8	2000	2500
2W500	5000	3095	5645	6045	150	150	5/8	1950	2400	
TWO STAGE FULL FREE	2F300	3000	1995	3680	4045	1355	990	5/8	2000	2500
	2F330	3300	2145	3980	4345	1505	1140	5/8	2000	2500
	2F350	3500	2280	4180	4545	1640	1275	5/8	2000	2500
	2F370	3700	2405	4380	4745	1765	1400	5/8	2000	2500
	2F400	4000	2595	4680	5045	1955	1590	5/8	2000	2500
THREE STAGE FULL FREE	3F385	3850	1845	4530	4895	1210	840	5/5	2000	2500
	3F430	4300	1995	4980	5345	1360	990	5/5	2000	2500
	3F475	4750	2145	5430	5795	1510	1140	5/5	2000	2500
	3F515	5150	2280	5830	6195	1645	1275	5/5	1900	2300
	3F550	5500	2405	6180	6545	1770	1400	5/5	1800	2100
	3F600	6000	2595	6680	7045	1960	1590	5/5	1550	1700
	3F650	6500	2845	7180	7545	2210	1840	5/5	1250	1350
3F700	7000	3095	7680	8045	2460	2090	5/5	1000	1100	
THREE STAGE FULL FREE WIDE VIEW	3V360	3600	1845	4225	4645	1130	840	5/5	1900	2350
	3V405	4050	2015	4675	5095	1280	1010	5/5	1900	2350
	3V450	4500	2145	5125	5545	1430	1140	5/5	1900	2350
	3V490	4900	2280	5525	5945	1560	1275	5/5	1800	2150
	3V525	5250	2405	5875	6295	1690	1400	5/5	1700	2000
	3V575	5750	2595	6375	6795	1880	1590	5/5	1450	1600
	3V633	6330	2845	6925	7375	2130	1840	5/5	1150	1300
	3V688	6880	3095	7505	7925	2380	2090	5/5	950	1050

¹ 1 inch = 25.4 mm, 1 kg = 0.4536 lb ² With Super Elastic tyres, std. carriage and 1100mm forks



DIMENSIONS

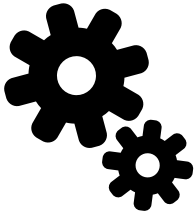
MAST SPECIFICATIONS & RATED CAPACITIES: FHB: 3.0 TONNE

Mast type	Mast name	Maximum fork height	Overall height				Free lift		Tilt angle Forward/backward degrees	Load capacity ²		
			Fully lowered	Fully extended		Without backrest	Std backrest	Load center 500 mm		Load center 500 mm	Load center 600 mm	
				Without backrest	Std backrest							
			mm ¹	mm ¹	mm ¹	mm ¹	mm ¹	mm ¹		FHB30-E1 kg	FHB30H-E1 kg	FHB30H-E1 kg
TWO STAGE WIDE VIEW	2W300	3000	1995	3645	4140	155	155	5/8	3000	3000	2905	
	2W330	3300	2145	3945	4440	155	155	5/8	3000	3000	2905	
	2W350	3500	2280	4145	4640	155	155	5/8	3000	3000	2905	
	2W370	3700	2405	4345	4840	155	155	5/8	3000	3000	2905	
	2W400	4000	2595	4645	5140	155	155	5/8	3000	3000	2905	
	2W450	4500	2845	5145	5640	155	155	5/8	2950	3000	2860	
2W500	5000	3095	5645	6140	155	155	5/8	2800	2850	2730		
TWO STAGE FULL FREE	2F300	3000	1995	3680	4140	1365	900	5/8	3000	3000	2815	
	2F330	3300	2145	3980	4440	1515	1050	5/8	3000	3000	2815	
	2F350	3500	2280	4180	4640	1650	1185	5/8	3000	3000	2815	
	2F370	3700	2405	4380	4840	1775	1310	5/8	3000	3000	2815	
	2F400	4000	2595	4680	5140	1965	1500	5/8	3000	3000	2815	
THREE STAGE FULL FREE	3F385	3850	1995	4480	4990	1410	900	5/5	3000	3000	2815	
	3F430	4300	2145	4930	5440	1560	1050	5/5	3000	3000	2815	
	3F475	4750	2280 ³	5380	5890	1695	1185	5/5	2850	3000	2770	
	3F515	5150	2405	5780	6290	1820	1310	5/5	2750	2925	2680	
	3F550	5500	2595	6130	6640	2010	1500	5/5	2400	2575	2365	
	3F600	6000	2845	6630	7140	2260	1750	5/5	2050	2200	2045	
	3F650	6500	3095	7130	7640	2510	2000	5/5	1750	1790	1640	
3F700	7000	3345	7630	8140	2760	2250	5/5	1400	-	-		
THREE STAGE FULL FREE WIDE VIEW	3V385	3850	1995	4480	4990	1280	900	5/5	2800	3000	2720	
	3V430	4300	2145	4930	5440	1430	1050	5/5	2800	3000	2720	
	3V470	4700	2280	5330	5840	1560	1185	5/5	2650	2825	2570	
	3V505	5050	2405	5680	6190	1690	1310	5/5	2600	2800	2520	
	3V555	5550	2595	6180	6690	1880	1500	5/5	2250	2415	2165	
	3V600	6000	2845	6630	7140	2130	1750	5/5	1900	2050	1870	
	3V650	6500	3095	7130	7640	2380	2000	5/5	1650	1750	1600	
	3V700	7000	3345	7630	8140	2500	2250	5/5	1300	1370	1250	

¹⁾ 1 inch = 25.4 mm, 1kg = 0.4536 lb ²⁾ With Super Elastic tyres, std. carriage and 1100mm forks ³⁾ Special containermast available, fully lowered 2145 mm.

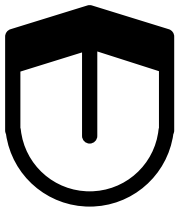


Especially developed to provide our customers with the most reliable and efficient technology in daily operation, TCM's counterbalanced trucks have been designed to meet the most challenging requirements even in the most demanding environments.



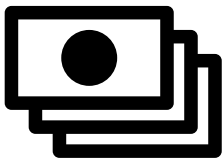
RELIABLE

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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