

Compact, three-phase AC rear-wheel drive fork lift truck

Maximum performance with lowest energy consumption

Only 990 mm wide for block stacking

Spacious work area

soloPILOT or multiPILOT control lever (optional)

Processor-controlled AC electronics which can be updated



## **EFG 110/110k/113/115**

**Electric three-wheel counterbalance truck with twin-coupled rear wheels (1,000/1,250/1,500 kg)**

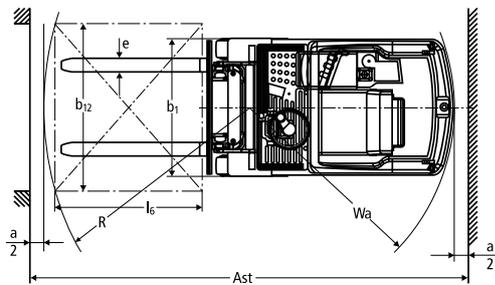
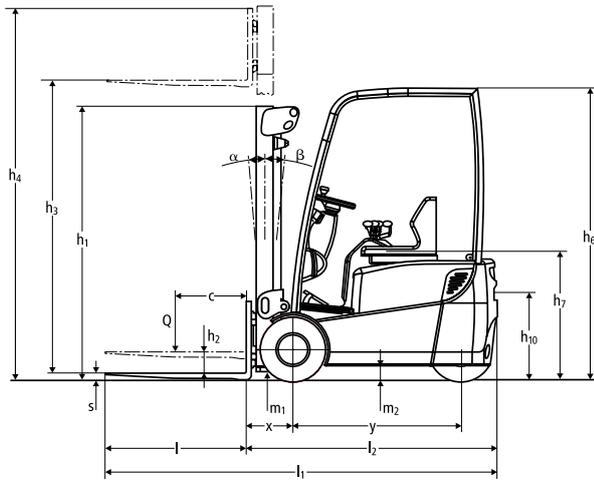
Rear-wheel drive, compact design, high performance data, and optimum working conditions. These are the strengths of the Jungheinrich electric three wheel counterbalanced fork lift truck EFG 110k/110-115. Advantages: Manoeuvrability, optimum performance working in HGVs, containers and wagons gives a high level of operator comfort.

This begins with the low entry height of just 520 mm. The operator enters the operator area easily and securely. The adjustable steering column and the three-way adjustable comfort seat offer individual adjustments for all operators.

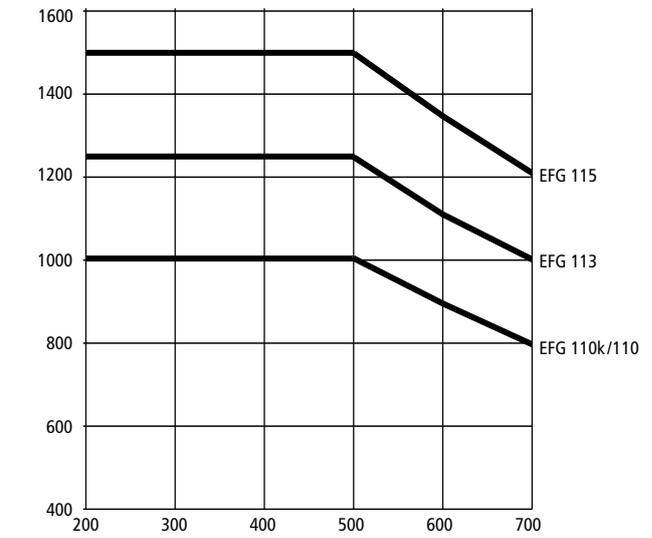
The comfort high roof has a height of 2,090 mm and offers superior headroom ('container roof' with a height of 1,970 mm is available as an option). Excellent all-round visibility enhances

safety; the ergonomically positioned hydraulic levers to the right of the driver's seat with soloPILOT (lifting/lowering, change in direction of travel and horn in one lever) are always handy. The Comfort Display is configured for viewing when looking in the direction of the forks. Using clear text displays, it provides data on operating hours and the battery charge (including lift cut-out) and stores all the relevant service data. With low steering / lever positioning forces and a conventional accelerator / brake pedal configuration, the power generated by the 3-phase AC motor, encapsulated as per IP 54, is easily transformed into dynamic, smooth acceleration. For use both indoors and outdoors.

# EFG 110/110k/113/115



Capacity (kg)



Load centre distance "c" in mm

Standard mast designs EFG 110/110k/113/115					
	Lift $h_3$ (mm)	Lowered mast height $h_1$ (mm)	Free lift $h_2$ (mm)	Extended mast height $h_4$ (mm)	Mast tilt forward / back $\alpha/\beta$ (°)
Duplex ZT	2300	1650	150	2850	5/4
	3000	2000	150	3550	5/6
	3100	2050	150	3650	5/6
	3300	2150	150	3850	5/6
	3600	2300	150	4150	5/6
	4000	2500	150	4550	5/6
	4500	2800	150	5050	5/6
Duplex ZZ	5000	3050	150	5550	5/5
	2300	1605	1055	2850	5/4
	3000	1955	1405	3550	5/6
	3100	2005	1455	3650	5/6
	3300	2105	1555	3850	5/6
	3600	2255	1705	4150	5/6
Triplex DZ	4000	2455	1905	4550	5/6
	4350	1955	1405	4900	5/6
	4500	2005	1455	5050	5/6
	4800	2105	1555	5350	5/6
	5000	2180	1630	5550	5/5
	5250	2255	1705	5800	5/5
	5500	2355	1805	6050	5/5
	6000	2555	2005	6550	5/4
6500	2805	2255	7050	5/4	

# Technical data in line with VDI 2198

Identification	1.1	Manufacturer (abbreviation)	Jungheinrich							
			EFG 110	EFG 110k	EFG 113	EFG 115				
Identification	1.2	Model	Electric							
	1.3	Drive	seat							
	1.4	Manual, pedestrian, stand-on, seated, order picker operation								
	1.5	Load capacity/rated load	Q	t	1	1	1.25	1.5		
	1.6	Load centre distance	c	mm	500					
	1.8	Load distance	x	mm	330 <sup>1)</sup>					
	1.9	Wheelbase	y	mm	1,038	984	1,146	1,200		
	Weights	2.1.1	Net weight incl. battery (see row 6.5)			kg	2,570	2,490	2,760	2,870
		2.2	Axle load with load front/rear			kg	2,945 / 625	2,940 / 550	3,390 / 620	3,805 / 565
2.3		Axle load without load front/rear			kg	1,145 / 1,425	1,095 / 1,395	1,235 / 1,525	1,270 / 1,600	
Wheels / frame	3.1	Tyres			SE					
	3.2	Tyre size, front			mm	18 x 7-8				
	3.3	Tyre size, rear			mm	18 x 7-8				
	3.5	Wheels, number front/rear (x = driven wheels)			2/1x					
	3.6	Tread width, front	b <sub>10</sub>	mm	838					
	3.7	Tread width, rear	b <sub>11</sub>	mm	0					
	Basic dimensions	4.1	Tilt of mast/fork carriage forward/backward			$\alpha/\beta$	°			
4.2		Mast height (lowered)			h <sub>1</sub>	mm				
4.3		Free lift			h <sub>2</sub>	mm				
4.4		Lift			h <sub>3</sub>	mm				
4.5		Extended mast height			h <sub>4</sub>	mm				
4.7		Height of overhead guard			h <sub>6</sub>	mm				
4.8		Seat height/stand height			h <sub>7</sub>	mm				
4.12		Coupling height			h <sub>10</sub>	mm				
4.19		Overall length			l <sub>1</sub>	mm	2,773	2,719	2,881	2,935
4.20		Length to face of forks			l <sub>2</sub>	mm	1,623	1,569	1,731	1,785
4.21		Overall width			b <sub>1</sub> /b <sub>2</sub>	mm	990			
4.22		Fork dimensions			s/e/l	mm	35 / 100 / 1,150			
4.23		Fork carriage ISO 2328, class/type A, B			2A					
4.24		Fork carriage width			b <sub>3</sub>	mm	950			
4.31		Floor clearance with load under mast			m <sub>1</sub>	mm	90			
4.32		Ground clearance, centre of wheelbase			m <sub>2</sub>	mm	100			
4.33	Aisle width for pallets 1000 x 1200 sideways			Ast	mm	2,952	2,898	3,060	3,114	
4.34	Aisle width for pallets 800 x 1200 lengthways			Ast	mm	3,074	3,020	3,182	3,236	
4.35	Turning radius			W <sub>a</sub>	mm	1,293	1,239	1,401	1,455	
4.36	Smallest pivot point distance			b <sub>13</sub>	mm	0				
Performance data	5.1	Travel speed, laden/unladen			km/h	12 / 12.5				
	5.2	Lift speed, laden/unladen			m/s	0.29 / 0.5	0.28 / 0.5	0.25 / 0.5	0.24 / 0.5	
	5.3	Lowering speed, laden/unladen			m/s	0.58 / 0.6				
	5.5	Drawbar pull w. / w.o. load			N	1,150 / 1,250	1,150 / 1,250	1,100 / 1,250	1,055 / 1,250	
	5.6	Max. drawbar pull, laden/unladen			N	4,400 / 4,500	4,400 / 4,500	4,375 / 4,500	4,350 / 4,500	
	5.7	Gradeability laden/unladen			%	8 / 11.5	8.5 / 12	7 / 11	6.5 / 10.5	
	5.8	Max. gradeability, laden/unladen			%	12.5 / 17.5	13 / 18	11 / 16.5	10 / 16	
	5.9.1	Acceleration time w / w.o. load (to 10 m)			S	5.1 / 4.6	5.1 / 4.6	5.4 / 4.7	5.6 / 4.8	
	5.10	Service brake			hydraulic					
	Electrics	6.1	Drive motor, output S2 60 min.			kW	4.0			
6.2		Lift motor, output at S3 15%			kW	6.0				
6.3		Battery as per DIN 43531 /35/36 A, B, C, no			A 43535					
6.4		Battery voltage/nominal capacity K5			V/Ah	24 / 625	24 / 500	24 / 875	24 / 1,000	
6.5		Battery weight			kg	450	380	600	690	
		Battery dimensions L/W/H			mm	830 / 327 / 627	830 / 273 / 627	830 / 435 / 627	830 / 489 / 627	
6.6		Energy consumption according to VDI cycle			kWh/h	3.6 <sup>2)</sup>	3.6 <sup>2)</sup>	3.9 <sup>2)</sup>	4.1 <sup>2)</sup>	
6.7		Throughput			t/h	60	60	76	93	
6.8	Energy consumption at max. throughput			kWh/h	3.3	3.2	3.5	3.7		
Misc.	8.1	Type of drive control			Impuls/AC					
	8.2	Working pressure for attachments			bar	160	160	185	210	
	8.3	Oil flow for attachments			l/min	14				
	8.4	Sound pressure level at operator's ear as per EN 12053			dB (A)	63				
	8.5	Trailer coupling, model/type DIN			DIN 15170-H					

<sup>1)</sup> 337 mm for DZ mast; for integral sideshift: x = 362 mm (DZ mast 369 mm); for sideshift attachment: x = 390 mm (DZ mast 397 mm)

<sup>2)</sup> 45 VDI work cycles/h

In accordance with VDI Guideline 2198 this specification sheet provides details of the standard truck only. Non-standard tyres, different masts, optional equipment, etc. may result in different values.

# Benefit from the advantages



Drive and lift motor with 3-phase AC technology



soloPILOT



multiPILOT

## Outstanding price/performance ratio

First-class design of operator seat, high performance data and low life-cycle costs give an outstanding price/performance ratio.

## High residual capacity

Full rated capacity up to 4,500 mm (EFG 115) or 5,000 mm (EFG 110k/110/113) can be achieved. This is due to excellent stability safety.

## Innovative motor technology

Drive and lift motor with AC technology and excellent heat economics (no ventilator required).

## Performance-enhancing workstation

- Standard comfort high roof for superior headroom.
- Clear view: mast and fork carriage allow for excellent visibility.
- Comfortable operation due to combined travel direction/hydraulic lever soloPILOT or multiPILOT (optional).
- Low effort hydraulic power steering (5.2 turns for 180° steering angle).

## Reduced maintenance

- Quick and easy access to the battery with 2 handles through a single-piece steel cover.

- Maintenance and wear-free motors in AC technology.
- Dirt, dampness and water-resistant motors due to encapsulated design and electronic components complying with IP 54.
- Prolonged service intervals: only every 1,000 operating hours or every 12 months.
- Hydraulic steering with fully encapsulated cog-wheel system.

## Economic driving and lifting

- AC technology ensures optimum performance.
- Energy recovery system.
- Omission of motor ventilators.
- Significantly prolonged work cycles, increasing charging intervals.
- Progressive lowering brake valve allows equal lowering speed with and without load.

## Innovative steering and safety technology

- Impulse AC technology steering allows sensitive driving.
- Programmable performance parameter ensure flexibility.
- 5 selectable drive programs (optional)
- Jungheinrich Curve Control reduces speed depending on the steering angle (optional).

## soloPILOT

The soloPILOT (standard equipment) combines the functions lifting/lowering, direction switch and horn into one control lever. The additional functions forward/backward tilting, sideshift (optional) and additional hydraulic (optional) can be operated with additional levers situated directly next to the soloPILOT.

## multiPILOT

The multiPILOT (optional) combines all drive and hydraulic functions into one central control lever. All control commands can easily be issued without having to move the hand. The hand rests easily on the ergonomically optimised handle. multiPILOT even enables several hydraulic functions to be controlled at the same time.

## 3-phase AC motors

Fully closed 3-phase AC motors – brushless – are the main component of the maintenance-free drive. They are resistant to dust, dirt and damp. The temperature control protects the motors from overheating by constantly adjusting the performance.

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The German production facilities in Norderstedt, Moosburg and Landsberg are certified. **ISO 9001**  
**ISO 14001**

Jungheinrich fork lift trucks meet European safety requirements.



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