

High performance electric forklift with enclosed, twin AC motor front wheel drive

5 individually adjustable working programs

Comfortable workstation with SOLO- or MULTI-PILOT (optional)

Jungheinrich Curve Control for safer driving and cornering

Maintenance-free multiple disk brakes



EFG 316–320

Electric four-wheel forklift truck (1600, 1800, 2000 kg)

The use of innovative three-phase AC technology opens up new possibilities and provides numerous advantages for electric forklift trucks:

- Excellent performance values for acceleration, travel and lift speeds allow for maximum productivity.
- More work per battery charge as a result of optimum efficiency and more effective energy recovery.
- Precise hydrostatic power steering. Solid-state electric braking system feeds energy back to the battery when the accelerator is released.

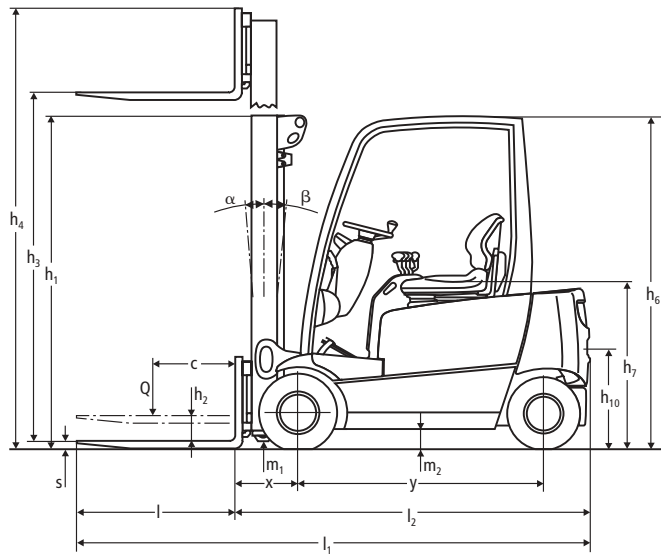
- Maintenance-free brushless enclosed three phase AC motors protected to IP 54.

This ensures faster working cycles and significantly longer operation per battery charge. Low day-to-day operating costs, together with reduced maintenance requirements, guarantee outstanding economic efficiency.

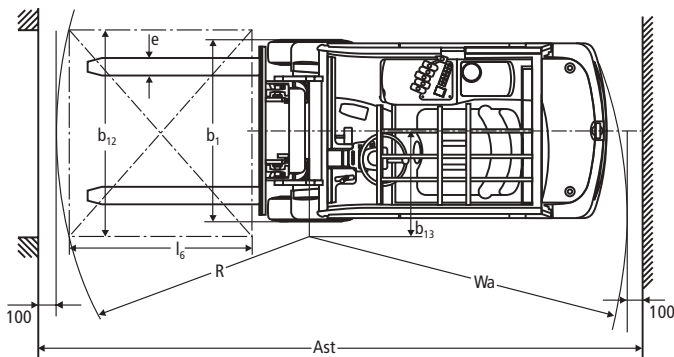
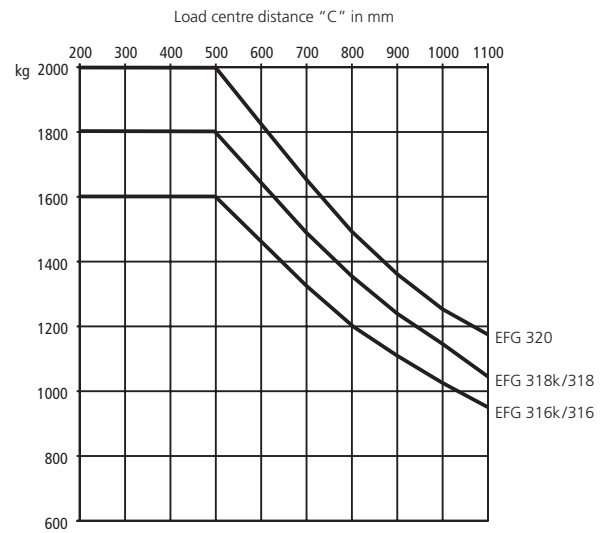
With exceptional travel and lift speeds, plus excellent acceleration and gradeability, these electric trucks produce handling performance similar to that of diesel and

LPG forklifts. Enclosed motors and electronic systems make it possible to operate these vehicles inside as well as outdoors. Even difficult environments, such as heavy dust, chemicals and moisture, will not affect the reliability and performance of the motors. These AC electric forklift trucks can, therefore, be deployed almost anywhere. Whisper-quiet, emission-free operation benefits the working environment and the low rate of energy consumption reduces operating costs.

EFG 316k/316-320



Capacity



Designation	Lift height h_3 mm	Free lift h_2 mm		Closed mast height h_1 mm	Extended mast height h_4 mm		Forward/ backward tilt α/β (°)	Capacity table (kg) $c = 500$ mm without sideshift, single solid tyres		
		EFG 316	EFG 318-320		EFG 316	EFG 318-320		EFG 316k/316	EFG 318k/318	EFG 320
		Two-stage ZT	2300	150	150	1650		2860	2887	7/4
	3000	150	150	2000	3560	3587	7/7	1600	1800	2000
	3100	150	150	2050	3660	3687	7/7	1600	1800	2000
	3300	150	150	2150	3860	3887	7/7	1600	1800	2000
	3600	150	150	2300	4160	4187	7/7	1600	1800	2000
	4000	150	150	2500	4560	4587	7/7	1600	1800	2000
	4500	150	150	2800	5060	5087	7/7	1600	1800	2000
	5000	150	150	3050	5560	5587	7/5	1500	1700	1850
	5500	150	150	3400	6060	6087	7/5	1400	1550	1650
Two-stage ZZ	2300	1045	988	1605	2860	2917	7/4	1600	1800	2000
	3000	1395	1338	1955	3560	3617	7/7	1600	1800	2000
	3100	1445	1388	2005	3660	3717	7/7	1600	1800	2000
	3300	1545	1488	2105	3860	3917	7/7	1600	1800	2000
	3600	1695	1638	2255	4160	4217	7/7	1600	1800	2000
	4000	1895	1838	2455	4560	4617	7/7	1600	1800	2000
Three-stage DZ	4350	1395	1338	1955	4910	4967	7/7	1600	1800	2000
	4500	1445	1388	2005	5060	5117	7/7	1600	1800	2000
	4800	1545	1488	2105	5360	5417	7/6	1550	1700	1900
	5000	1620	1563	2180	5560	5617	7/6	1500	1650	1800
	5500	1795	1738	2355	6060	6117	7/5	1350	1500	1600
	6000	1995	1938	2555	6560	6617	7/5	1150	1300	1400
	6500	2245	2188	2805	7060	7117	7/5	950	1100	1150

Technical Data in line with VDI 2198 as at: 09/2005

		Jungheinrich		Jungheinrich		Jungheinrich					
		EFG 316k	EFG 316	EFG 318k	EFG 318	EFG 320					
Identification	1.1	Manufacturer (abbreviation)		Jungheinrich		Jungheinrich	1.1				
	1.2	Manufacturer's type designation		EFG 316k	EFG 316	EFG 318k	EFG 318	EFG 320	1.2		
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas, manual		electric		electric		electric	1.3		
	1.4	Type of operation: hand, pedestrian, standing, seated, order picker		seated		seated		seated	1.4		
	1.5	Load capacity/rated load	Q (t)		1.6		1.8	2	1.5		
	1.6	Load centre distance	c (mm)		500		500	500	1.6		
	1.8	Load distance, centre of drive axle to fork	x (mm)		352 ¹⁾		352 ¹⁾	352 ¹⁾	1.8		
	1.9	Wheelbase	y (mm)		1380	1490	1380	1490	1490	1.9	
	Weights	2.1	Service weight incl. battery (see line 6.5)		kg		2850	3025	3130	3215	3230
2.2		Axle loading, laden front/rear		kg		3940/510	3890/730	4410/520	4250/770	4675/555	2.2
2.3		Axle loading, unladen front/rear		kg		1350/1500	1375/1650	1500/1630	1415/1800	1530/1700	2.3
Wheels, Chassis	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane		SE(L)/SE(L)		SE/SE		SE/SE	3.1		
	3.2	Tyre size, front (∅ x width)		18x7-8		200/50-10		200/50-10	3.2		
	3.3	Tyre size, rear (∅ x width)		16x6-8		16x6-8		16x6-8	3.3		
	3.5	Wheels, number front rear (x = driven wheels)		2 x/2		2 x/2		2 x/2	3.5		
	3.6	Track width, front	b ₁₀ (mm)		905		915	915	3.6		
	3.7	Track width, rear	b ₁₁ (mm)		830		830	830	3.7		
	Basic Dimensions	4.1	Mast/fork carriage tilt forward/backward		α/β (°)		7/7		7/7	4.1	
4.2		Lowered mast height		h ₁ (mm)		2000		2000	2000	4.2	
4.3		Free lift		h ₂ (mm)		150		150	150	4.3	
4.4		Lift height		h ₃ (mm)		3000		3000	3000	4.4	
4.5		Extended mast height		h ₄ (mm)		3560		3587	3587	4.5	
4.7		Overhead load guard (cab) height		h ₆ (mm)		1960		1960	1960	4.7	
4.8		Seat height/standing height		h ₇ (mm)		890		890	890	4.8	
4.12		Coupling height		h ₁₀ (mm)		410/580		410/580	410/580	4.12	
4.19		Overall length	l ₁ (mm)		3152	3260	3152	3260	3260	4.19	
4.20		Length to face of forks	l ₂ (mm)		2002	2110	2002	2110	2110	4.20	
4.21		Overall width	b ₁ /b ₂ (mm)		1060/-		1120/-		1120/-	4.21	
4.22		Fork dimensions	s/e/l (mm)		40x100x1150		40x100x1150		40x100x1150	4.22	
4.23		Fork carriage ISO 2328, class/type A, B		2 A		2 A		2 A	4.23		
4.24		Fork-carriage width	b ₃ (mm)		980		980	980	4.24		
4.31		Ground clearance, laden, under mast	m ₁ (mm)		90		90	90	4.31		
4.32		Ground clearance, centre of wheelbase	m ₂ (mm)		100		100	100	4.32		
4.33	Aisle width for pallets 1000x1200 crossways	Ast (mm)		3474	3582	3474	3582	3582	4.33		
4.34	Aisle width for pallets 800x1200 lengthways	Ast (mm)		3674	3782	3674	3782	3782	4.34		
4.35	Turning radius	Wa (mm)		1922	2030	1922	2030	2030	4.35		
4.36	Smallest pivot point distance	b ₁₃ (mm)		620	635	620	635	635	4.36		
Performance Data	5.1	Travel speed, laden/unladen		km/h		16.5/17.0		17.0/17.2	17.0/17.2	5.1	
	5.2	Lift speed, laden/unladen		m/s		0.50/0.65		0.44/0.56	0.40/0.56	5.2	
	5.3	Lowering speed, laden/unladen		m/s		0.55/0.55		0.55/0.55	0.55/0.55	5.3	
	5.5	Drawbar pull, laden/unladen S ₂ 60 min	N		2150/2450	2100/2450	2000/2300	1900/2300	5.5		
	5.6	Max. drawbar pull, laden/unladen S ₂ 5 min	N		12700/12700		12400/12200	12300/12000	5.6		
	5.7	Gradient performance, laden/unladen S ₂ 30 min	%		7.3/12.3	7/11.5	6.2/10.7	5.9/10.5	5.7/10.4	5.7	
	5.8	Max. gradient performance, laden/unladen S ₂ 5 min	%		27/35		26/35	25/35	24/35	5.8	
	5.9	Acceleration time, laden/unladen	s		3.8/3.4		3.9/3.5	4.0/3.5	5.9		
	5.10	Service brake		hydr./electr.		hydr./electr.		hydr./electr.	5.10		
	E-Motor	6.1	Drive motor rating S ₂ 60 min		kW		4.0/4.0		4.0/4.0	4.0/4.0	6.1
6.2		Lift motor rating at S ₃ 15 %		kW		14		14	14	6.2	
6.3		Battery acc. to DIN 43531/35/36 A, B, C, no		DIN 43531 A		DIN 43531 A		DIN 43531 A	6.3		
6.4		Battery voltage, nominal capacity K ₅	V/Ah		48/575	48/690	48/575	48/690	48/690	6.4	
6.5		Battery weight	kg		855	1025	855	1025	1025	6.5	
6.6		Battery dimensions l/w/h	cm		830/630/627	830/738/627	830/630/627	830/738/627	830/738/627	6.6	
Other Details	8.1	Type of drive control		Impulse/AC		Impulse/AC		Impulse/AC	8.1		
	8.2	Operating pressure for attachments		bar		>200		>200	>200	8.2	
	8.3	Oil volume for attachments		l/min		25		25	25	8.3	
	8.4	Sound level at driver's ear according to DIN 12 053		dB(A)		67		67	67	8.4	
	8.5	Tow coupling, type DIN		15170/type H		15170/type H		15170/type H	8.5		

1) 377 mm with DZ mast, with integrated sidishift: x = 375 mm (400 mm with DZ mast), with sidishift attachment: x = 410.5 mm (435.5 mm with DZ mast)

2) 45 VDI working cycles/h

Make use of the advantages

Exemplary operator comfort

Functionality and ergonomics of the driver environment guarantees relaxed and fatigue-free work over long shifts:

- Low access steps. Large, level foot well with automotive pedal lay-out.
- Steering column and comfort seat allow multiple adjustments for optimum seating position.
- Floating cab module cushions road shocks and vibrations.
- Clear view: mast and fork carriage allow for excellent visibility to load and road.
- Hydraulic power steering is precise and low effort, without kick-back.



SOLO-PILOT

- Comfort Display provides up-to-date information on vital vehicle conditions at a glance.
- Comfortable, fatigue-free operation of direction and hydraulics by SOLO-PILOT (all functions in one lever) or MULTI-PILOT (optional), separate levers.
- Convenient storage for documents, tools and drinks.

Safe, wear-free braking

Three distinct systems ensure safe, precise and largely wear-free braking:

- Regenerative electric braking in reversing mode and regular brake pedal use.



MULTI-PILOT

- Multiple oil disk brakes act as a safety back-up. Wear-free and fully enclosed.
- Parking brake uses the service brake system through a separate electric actuation system Operation warning light in the Comfort Display.

Maintenance free electric motors

Proven AC technology: 2 drive motors, hydraulic pump motor, steering motor. High performance, low energy consumption, less maintenance:

- High torque for rapid work cycles.
- Up to 15% higher energy efficiency than shunt motors.
- No brushes, no collector – no maintenance expense.
- Fully enclosed and protected to IP 54. Long life, even under dusty and damp conditions.
- 2 years warranty.

Active safety

Excellent drive dynamics and performance also demand a high degree of safety:

- Curve Control automatically reduces travel speed when cornering.
- Smooth Rollback function ensures controlled operation on ramps and slopes.
- Very low centre of gravity improves stability and residual capacity.

- Long wheelbase ensures stable handling and smooth travel.
- Electronic and hydraulic overload protection guard.
- Electronic differential ensures optimum torque in curves.
- Emergency off switch quickly accessible.
- Reliable data transfer between electronic components through CAN-Bus technology.

Intelligent electronics

BoardControl electronic system permanently controls and monitors all truck functions.

- Smooth driving, dynamic reversing and precise load positioning with a minimum of energy.



Comfort Display

- 5 application programs can be individually adapted to ensure optimal performance in any application.
- Diagnostic system monitors all components and provides service data memory for rapid and cost-effective maintenance.
- Comfort Display with digital service hour meter (actual or cyclic duration factor), battery discharge indicator plus lift cut-out, clock, error code and warning displays.
- Electronic steer wheel position indicator.

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Jungheinrich trucks
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 Safety Requirements.



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