

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.

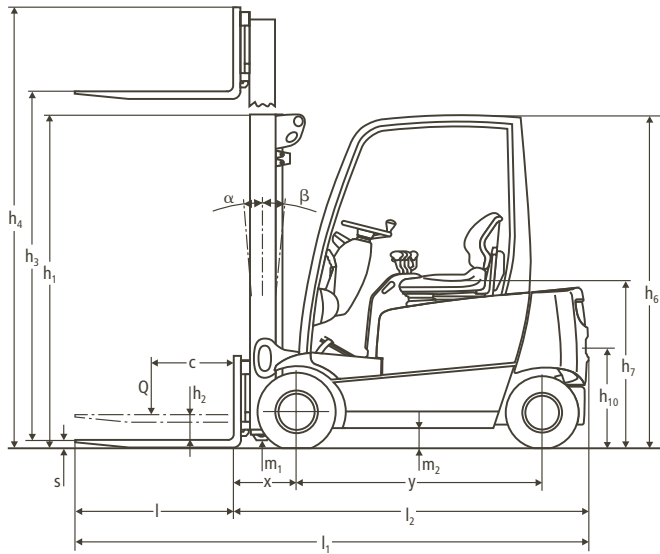
- Maintenance-free brushless enclosed three phase AC motors protected to IP 54.

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.

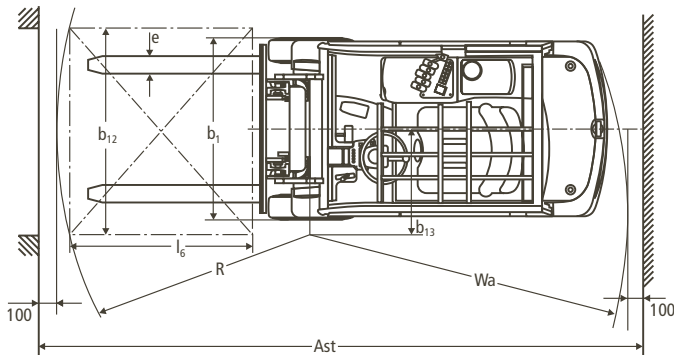
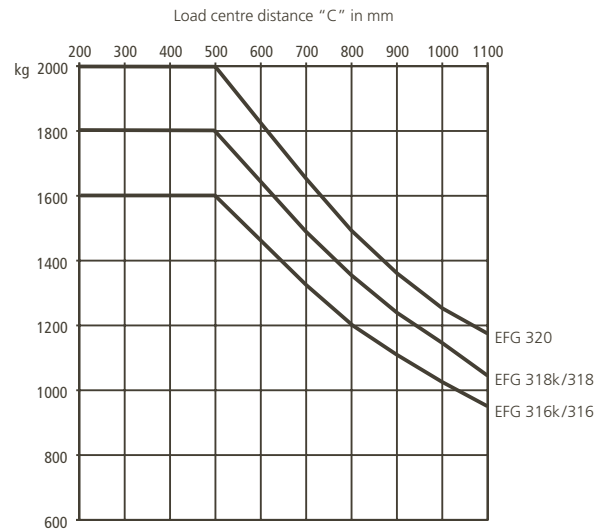
With exceptional travel and lift speeds, plus excellent acceleration and gradeability, these electric trucks produce handling performance similar to that of diesel and

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 | Mast table EFG 316-320 | | | | | Forward/ backward tilt α/β (°) | Capacity table (kg) $c = 500$ mm | | |
|-------------------|----------------------------|------------------------|----------------|--------------------------------------|----------------------------------|----------------|--|--|-----------------|------------|
| | | Free lift h_2 mm | | Closed mast height h_1 mm | Extended mast height h_4 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 | 1600 | 1800 | 2000 |
| | 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 |
| 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: 05/2007

| | | 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 | | SEL/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) | | 2x/2 | | 2x/2 | | 2x/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 | 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 _s | | 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 |
| | | Battery dimensions l/w/h | | mm | | 830/630/627 | 830/738/627 | 830/630/627 | 830/738/627 | 830/738/627 | 6.6 |
| 6.6 | | Energy consumption acc. to VDI cycle ²⁾ | | kWh/h | | 4.1 | 4.3 | 4.6 | 4.8 | 6.6 | |
| Other Details | 8.1 | Type of drive control | | | | Impulse/AC | | Impulse/AC | Impulse/AC | | |
| | 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 12053 | | 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 sideshift: x = 375 mm (400 mm with DZ mast), with sideshift 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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