

High-performance fork lift trucks with side battery access and state-of-the-art 3-phase AC technology

Electric steering for improved operating comfort

New operating concept with SOLO or MULTI-PILOT in an armrest that accompanies the arm movement

Automatic parking brake

Driver assistance systems (optional)

5 individually adjustable operating programs



EFG 213/215/216k/216/218k/218/220

Electric three-wheel truck (1,300/1,500/1,600/1,800/2,000 kg)

The newest generation of AC technology offers numerous advantages for electric fork lift trucks:

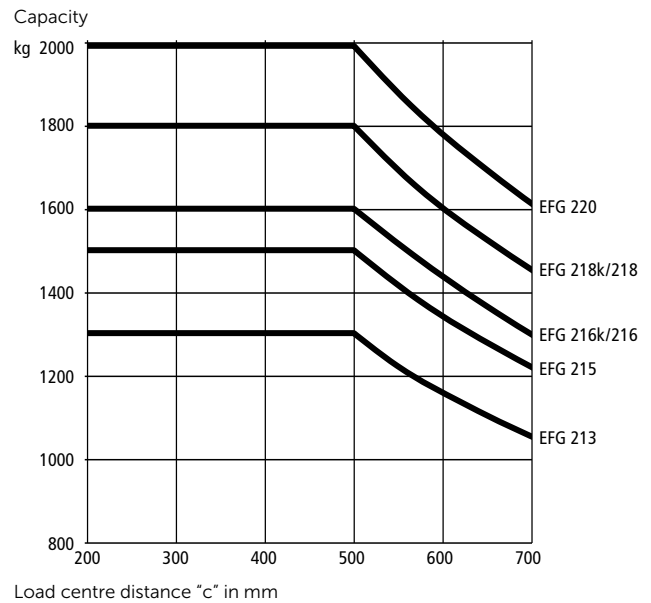
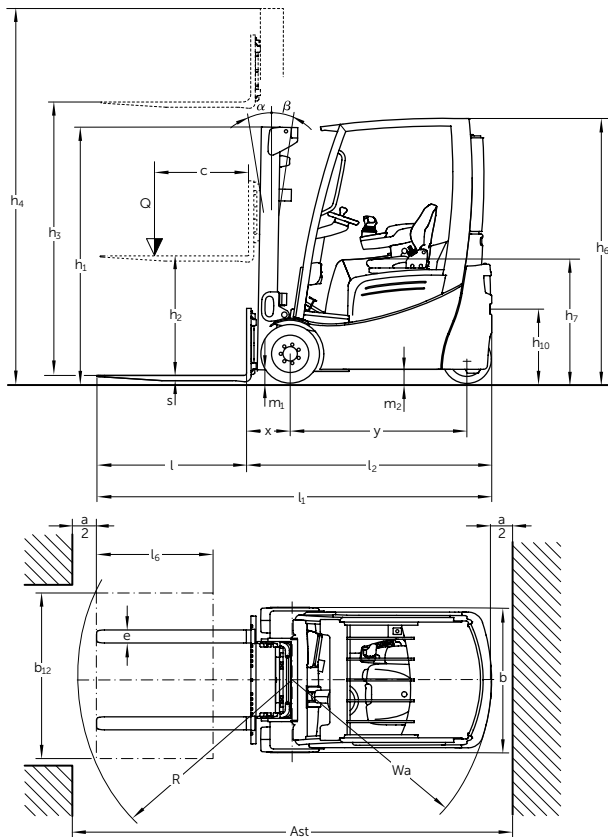
- Minimal energy consumption due to high efficiency and energy recovery.
- Minimal service costs due to the elimination of mechanical and hydraulic components.

- Efficient electric steering using 3-phase AC technology. The advantage: Faster work cycles with noticeably longer operating hours from one battery charge. Along with the reduced maintenance requirements, this results in maximum efficiency and low operating costs. Changing the battery is simple and easy: Three different battery changing options make this easy for any user – even during three-shift operations.

The technical design with its strength and ease of servicing provide forward-looking technology.

- Sturdy design with steel mud guards, steel covers and protected lighting.
- Enclosed frame – including the battery – for added stability and protection. Maintenance-free components (e.g. brakes and gears).
- Innovative technology with halogen lamps and LEDs.

EFG 213/215/216k/216/218k/218/220



| Standard mast types EFG 213/215/216k/216/218k/218/220 | | | | | | | | | Capacity chart (kg) | | | | |
|-------------------------------------------------------|-----------------------|--------------------------------------------|----------------------------------|----------------------------|------------------------------------------|----------------------------|------------------------------------------------------|----------------------------|------------------------------------------------|---------|-------------------|-------------------|---------|
| | 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 α/β (°) | | c=500 no side-shift, tyres are simply solid | | | | |
| | | | | | | | | | | | | | |
| | | | EFG 213 / 215 / 216k / 216 | EFG 218k / 218 / 220 | EFG 213 / 215 / 216k / 216 | EFG 218k / 218 / 220 | EFG 213 / 215 / 216k / 216 | EFG 218k / 218 / 220 | EFG 213 | EFG 215 | EFG 216k / 216 | EFG 218k / 218 | EFG 220 |
| Duplex ZT | 3000 | 2000 | 150 | 150 | 3550 | 3585 | 7/7 | 7/7 | 1300 | 1500 | 1600 | 1800 | 2000 |
| | 3100 | 2050 | 150 | 150 | 3650 | 3685 | 7/7 | 7/7 | 1300 | 1500 | 1600 | 1800 | 2000 |
| | 3300 | 2150 | 150 | 150 | 3850 | 3885 | 7/7 | 7/7 | 1300 | 1500 | 1600 | 1800 | 2000 |
| | 3600 | 2300 | 150 | 150 | 4150 | 4185 | 7/7 | 7/7 | 1300 | 1500 | 1600 | 1800 | 2000 |
| | 4000 | 2500 | 150 | 150 | 4550 | 4585 | 7/3 | 7/7 | 1300 | 1500 | 1600 | 1800 | 2000 |
| | 4500 | 2800 | 150 | 150 | 5050 | 5085 | 7/7 | 7/7 | 1300 | 1500 | 1600 | 1800 | 2000 |
| Duplex ZZ | 5000 | 3050 | 150 | 150 | 5550 | 5585 | 7/5 | 7/5 | 1200 | 1400 | 1500 | 1700 | 1850 |
| | 3000 | 1955 | 1405 | 1340 | 3550 | 3615 | 7/7 | 7/7 | 1300 | 1500 | 1600 | 1800 | 2000 |
| | 3100 | 2005 | 1455 | 1390 | 3650 | 3715 | 7/7 | 7/5 | 1300 | 1500 | 1600 | 1800 | 2000 |
| | 3300 | 2105 | 1555 | 1490 | 3850 | 3915 | 7/7 | 7/7 | 1300 | 1500 | 1600 | 1800 | 2000 |
| | 3600 | 2255 | 1705 | 1640 | 4150 | 4215 | 7/7 | 7/7 | 1300 | 1500 | 1600 | 1800 | 2000 |
| | 4000 | 2455 | 1905 | 1840 | 4550 | 4615 | 7/7 | 7/7 | 1300 | 1500 | 1600 | 1800 | 2000 |
| Triplex DZ | 4350 | 1955 | 1395 | 1338 | 4910 | 4967 | 7/7 | 7/5 | 1300 | 1500 | 1600 | 1800 | 2000 |
| | 4500 | 2005 | 1455 | 1390 | 5050 | 5115 | 7/7 | 7/7 | 1300 | 1450 | 1600 | 1800 | 2000 |
| | 4800 | 2105 | 1555 | 1490 | 5350 | 5415 | 7/5 | 7/5 | 1250 | 1400 | 1550 | 1700 | 1900 |
| | 5000 | 2180 | 1630 | 1565 | 5550 | 5615 | 7/5 | 7/5 | 1200 | 1350 | 1500 | 1650 | 1800 |
| | 5500 | 2355 | 1805 | 1740 | 6050 | 6115 | 7/5 | 7/5 | 1050 | 1250 | 1350 | 1500 | 1600 |
| | 6000 | 2555 | 2005 | 1940 | 6550 | 6615 | 7/5 | 7/5 | 900 | 1500 | 1150 | 1300 | 1400 |
| | 6500 | 2805 | 2255 | 2190 | 7050 | 7115 | 7/5 | 7/5 | 750 | 1500 | 950 | 1100 | 1150 |

Technical data in line with VDI 2198

| Identification | 1.1 | Manufacturer (short form) | | Jungheinrich | | | | | | |
|------------------|--------|--------------------------------------------------------------|-----------------------------------|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | 1.2 | Model | | EFG 213 | EFG 215 | EFG 216k | EFG 216 | EFG 218k | EFG 218 | EFG 220 |
| | 1.3 | Drive | | Electrics | | | | | | |
| | 1.4 | Manual, pedestrian, stand-on, seated, order picker operation | | seat | | | | | | |
| | 1.5 | Load capacity/rated load | Q t | 1.3 | 1.5 | 1.6 | 1.6 | 1.8 | 1.8 | 2 |
| | 1.6 | Load centre distance | c mm | 500 | | | | | | |
| | 1.8 | Load distance | x mm | 335 ¹⁾ | 335 ¹⁾ | 340 ²⁾ | 340 ²⁾ | 340 ²⁾ | 340 ²⁾ | 340 ²⁾ |
| | 1.9 | Wheelbase | y mm | 1249 | 1249 | 1357 | 1465 | 1357 | 1465 | 1465 |
| Weights | 2.1.1 | Net weight incl. battery (see row 6.5) | kg | 2733 | 2978 | 3000 | 3057 | 3256 | 3207 | 3382 |
| | 2.2 | Axle load, w. load, front / rear | kg | 3545 / 488 | 3870 / 608 | 4052 / 548 | 4060 / 597 | 4380 / 675 | 4405 / 602 | 4706 / 676 |
| | 2.3 | Axle load, w.o. load, front / rear | kg | 1326 / 1407 | 1310 / 1668 | 1411 / 1589 | 1496 / 1561 | 1409 / 1846 | 1520 / 1686 | 1501 / 1881 |
| Wheels / chassis | 3.1 | Tyres | | SE(L) / SE(L) | SE(L) / SE(L) | SE(L) / SE(L) | SE(L) / SE(L) | SE / SE | SE / SE | SE / SE |
| | 3.2 | Tyre size, at front | mm | 18 x 7-8 | 18 x 7-8 | 18 x 7-8 | 18 x 7-8 | 200 / 50-10 | 200 / 50-10 | 200 / 50-10 |
| | 3.3 | Tyre size, at rear | mm | 140 / 55-9 | | | | | | |
| | 3.5 | Wheels, number front/rear (x = driven wheels) | | 2x/2 | | | | | | |
| | 3.6 | Track width, front | b ₁₀ mm | 904 | 904 | 904 | 904 | 914 | 914 | 914 |
| | 3.7 | Track width, rear | b ₁₁ mm | 176 | | | | | | |
| | 3.8 | Track width, overall | | 176 | | | | | | |
| Basic dimensions | 4.1 | Tilt of mast/fork carriage forward/backward | α/β ° | 7/7 | | | | | | |
| | 4.2 | Mast height (lowered) | h ₁ mm | 2000 | | | | | | |
| | 4.2.1 | Total height | h ₁₅ mm | | | | | | | |
| | 4.3 | Free lift | h ₂ mm | 150 | | | | | | |
| | 4.4 | Lift | h ₃ mm | 3000 | | | | | | |
| | 4.5 | Extended mast height | h ₄ mm | 3560 | 3560 | 3560 | 3560 | 3587 | 3587 | 3587 |
| | 4.7 | Height of overhead guard | h ₆ mm | 2040 | | | | | | |
| | 4.8 | Seat height/stand height | h ₇ mm | 920 | | | | | | |
| | 4.12 | Coupling height | h ₁₀ mm | 560 | | | | | | |
| | 4.19 | Overall length | l ₁ mm | 2924 | 2924 | 3037 | 3145 | 3037 | 3145 | 3145 |
| | 4.20 | Length incl. back of forks | l ₂ mm | 1774 | 1774 | 1887 | 1995 | 1887 | 1995 | 1995 |
| | 4.21 | Total width | b ₁ /b ₂ mm | 1060 | 1060 | 1060 | 1060 | 1120 | 1120 | 1120 |
| | 4.22 | Fork dimensions | s/e/l mm | 35 / 100 / 1150 | 35 / 100 / 1150 | 40 / 100 / 1150 | 40 / 100 / 1150 | 40 / 100 / 1150 | 40 / 100 / 1150 | 40 / 100 / 1150 |
| | 4.23 | Fork carriage ISO 2328, class/type A, B | | 2A | | | | | | |
| | 4.24 | Fork carriage width | b ₃ mm | 980 | | | | | | |
| | 4.31 | Floor clearance with load under mast | m ₁ mm | 80 | | | | | | |
| | 4.32 | Floor clearance centre wheelbase | m ₂ mm | 100 | | | | | | |
| | 4.33 | Aisle width for pallets 1000 x 1200 sideways | Ast mm | 3104 | 3104 | 3216 | 3323 | 3216 | 3323 | 3323 |
| | 4.33.5 | working aisle width for 800 x 1200 pallet (lengthways) | Ast mm | 3226 | 3226 | 3339 | 3446 | 3339 | 3446 | 3446 |
| | 4.35 | Turning radius | W _a mm | 1440 | 1440 | 1548 | 1655 | 1548 | 1655 | 1655 |
| | 4.36 | Smallest pivot point distance | b ₁₃ mm | 0 | | | | | | |
| Performance data | 5.1 | Travel speed, w. / w.o. load | km/h | 16 / 16 | | | | | | |
| | 5.2 | Lift speed, w. / w.o. load | m/s | 0.48 / 0.6 | 0.46 / 0.6 | 0.49 / 0.6 | 0.49 / 0.6 | 0.44 / 0.55 | 0.44 / 0.55 | 0.4 / 0.55 |
| | 5.3 | Lower speed, w. / w.o. load | m/s | 0.55 / 0.55 | | | | | | |
| | 5.5 | Drawbar pull w. / w.o. load | N | 2300 / 2500 | 2200 / 2450 | 2150 / 2450 | 2100 / 2450 | 2000 / 2300 | 2000 / 2300 | 1900 / 2300 |
| | 5.6 | Max. drawbar pull, laden/unladen | N | 12700 / 12700 | 12700 / 12700 | 12700 / 12700 | 12700 / 12700 | 12400 / 12200 | 12400 / 12200 | 12300 / 12000 |
| | 5.7 | Gradeability laden/unladen | % | 12 / 20 | | | | | | |
| | 5.8 | Max. gradeability, laden/unladen | % | 28 / 35 | 27 / 35 | 27 / 35 | 27 / 35 | 26 / 35 | 25 / 35 | 24 / 35 |
| | 5.9 | Acceleration time w. / w.o. load | S | 3.6 / 3.2 | 3.8 / 3.4 | 3.8 / 3.4 | 3.8 / 3.4 | 3.9 / 3.5 | 3.9 / 3.5 | 4 / 3.5 |
| | 5.10 | Service brake | | electric/mechanical | | | | | | |
| | 5.11 | Service brake | | electric/mechanical | | | | | | |
| Electrics | 6.1 | Drive motor rating S2 60 min. | kW | 4.5 / 4.5 | | | | | | |
| | 6.2 | Lift motor rating at S3 15% | kW | 11.5 | | | | | | |
| | 6.3 | Battery according to DIN 43531/35/36 A,B,C, no | | A 43531 | | | | | | |
| | 6.4 | Battery voltage/nominal capacity K5 | V/Ah | 48 / 500 | 48 / 500 | 48 / 625 | 48 / 750 | 48 / 625 | 48 / 750 | 48 / 750 |
| | 6.5 | Battery weight | kg | 715 | 715 | 1025 | 1025 | 855 | 1025 | 1025 |
| | 6.6 | Battery dimensions L/W/H | mm | 830 / 522 / 627 | 830 / 522 / 627 | 830 / 630 / 627 | 830 / 738 / 627 | 830 / 630 / 627 | 830 / 738 / 627 | 830 / 738 / 627 |
| Misc. | 6.6 | Energy consumption according to VDI cycle | kWh/h | 4.2 ³⁾ | 4.3 ³⁾ | 4.3 ³⁾ | 4.4 ³⁾ | 4.7 ³⁾ | 4.7 ³⁾ | 4.9 ³⁾ |
| | 8.1 | Type of drive control | | Impuls/AC | | | | | | |
| | 8.2 | working pressure for attachments | bar | 200 | | | | | | |
| | 8.3 | oil flow for attachments | l/min | 25 | | | | | | |
| | 8.4 | Sound pressure level at operator's ear according to EN 12053 | dB (A) | 66 | | | | | | |
| Misc. | 8.5 | Trailer coupling, model/type DIN | | DIN 15170/H | | | | | | |
| | 8.6 | Trailer coupling, model/type DIN | | DIN 15170/H | | | | | | |

¹⁾ 360 mm for DZ mast; with integral sideshift: x=358 mm (383 mm for DZ mast); with sideshift attachment: x=395 mm (420 mm for DZ mast)

²⁾ 365 mm for DZ mast; for integral sideshift: x = 363 mm (388 mm for DZ mast); for sideshift attachment: x = 400 mm (425 mm for DZ mast)

³⁾ 60 VDI work cycles/h, tolerances +/- 10 % possible

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



SOLO-PILOT



MULTI-PILOT

Superior operator comfort

The ergonomically designed operator's cab allows for relaxed operation with low fatigue, even during long shifts:

- Light and effortless electric steering, reduces the number of steering wheel turns and utilises a smaller steering wheel.
- The elimination of hydraulic components in the leg area reduces steering related noise and provides more leg room.
- The height and pitch of the steering column is adjustable.
- All essential controls are located on the adjustable armrests (adjustable height and length), making operation especially comfortable.
- Minimal vibration due to the special mounting of the cab via interdependent mounting points (Floating Cab).
- Clearly arranged operator display.

Professional battery management

AC technology offers both improved efficiency as well as delete energy reclamation, for longer operation time between battery changes.

- Sideways battery access.
- Individual changing systems with hand pallet truck, forklift or crane.
- Simple, space-saving charging via side door.
- Easy access for maintenance.
- OnBoard charger with 2 charging periods – 8 or 12 hour for more flexibility and shorter charging time compared to the standard charger.

Maintenance-free braking system

Three maintenance-free braking systems make braking safe and comfortable:

- Motor brake for regenerative braking during deceleration.
- Automatically engaging parking brake for secure stopping, even on ramps.
- Brake pedal operated, maintenance free disc brakes during dangerous situations.

Maintenance-free motors

The new generation of three-phase AC motors will impress you with their quiet and precise operation at all speeds.

- High torque for faster operation cycles.
- Lifetime lubrication of main components.
- Individually mounted drive motors for simpler servicing.
- Dust and water jet protection to IP 54.

Safety systems

Excellent drive dynamics and performance provide a high degree of safety. That's why the EFG Series 2 includes a comprehensive range of safety equipment:

- Deactivation of the hydraulic functions if seat is unoccupied.
- No roll-back on ramps or inclines due to the automatic parking brake, even when the truck is switched off.
- Automatic reduction of the driving speed when cornering with Jungheinrich Curve Control
- Speedometer.

A range of optional operator assistance

systems (optional) provide additional safety for the operator, truck and load:

- Access Control: The access control system unlocks the vehicle only after a sequence of safety checks:
 1. Valid access rights.
 2. Closed seat switch.
 3. Seatbelt is secured.
- Drive Control: The speed control which automatically reduces the speed of travel when cornering and from a defined lift height.
- Lift Control: The lift speed control which, in addition to the travel speed reduction, also automatically reduces the tilt speed of the mast from a defined lift height. The tilt angle is shown on a separate display.

Intelligent electronics

- Jerk-free travel, smooth reversing and precise positioning.
- Optimally adapted to any situation using 5 individual work programmes.
- The monitoring of all components and saving of service data, allowing fast and low cost maintenance routines using the diagnosis system.
- Standard display of the steering wheel position and the travel speed.

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

Jungheinrich fork lift trucks meet European safety requirements.



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