High performance and high energy efficiency with 4th generation AC technology

Electric power steering for improved operator comfort and reliability

solo- or multiPILOT integrated into the adjustable armrest

Sealed components to help protect against dust and moisture

The ability to run up to two shifts on a single battery charge



EFG 213 - 220 / 316k - 320

Three- And Four-Wheel Counterbalanced Truck (2,500 - 4,000 lbs.)

The advantages of electrics

The newest generation of AC technology offers numerous advantages for electric counterbalanced forklifts:

- Minimal energy consumption due to high efficiency and energy recovery.
- Minimal service costs due to the reduction of mechanical and hydraulic components.
- Efficient electric power steering using AC technology.

The advantage: industry-leading drive and lift performance levels and the ability to run up to two shifts on a single battery charge in most applications. Combine this with reduced maintenance requirements, and you can significantly reduce your total cost of ownership.

Outdoor applications

Harsh environments are no problem for the EFG 213-220 / 316k-320 series of forklifts because major electrical components are highly sealed, including connectors, controllers, motors and more. The enclosed cabin option provides a comfortable and productive environment for operators – even in wet, cold or extreme conditions.



Technical data

1			EFG 213 (3-wheel)		(3-wheel)	EFG 216k	(3-wheel)	EFG 216 (3-wheel)		
	1	Capacity at rated load center	lb	kg	2,510	1,300	3,100	1,600	3,100	1,600
	2	Capacity at load center – distance	in	mm	24	500	24	500	24	500
	3	1 1			ele	ctric	ele	ctric	elec	ctric
	4	Tire type – cushion, solid pneumatic			solid pr	neumatic	solid pneumatic		solid pneumatic	
	5	Wheels (x = driven) number front / rear				x/2	2x/2		2x/2	
	11			mm	118	3,000	118	3,000	118	3,000
	12	Free fork height*	in	mm	5.9	150	5.9	150	5.9	150
		Forks – thickness	in	mm	1.4	35	1.6	40	1.6	40
i		Forks – width	in	mm	3.9	100	3.9	100	39	150
i	13	Forks – length	in	mm	43.0	1,100	43.0	1,100	43.0	1,100
į		Fork spacing – out-to-out minimum / maximum	in	mm	12.3/36	312/914	12.3/36	312/914	12.3/36	312/914
į	14	Tilt – forward / backward		eg		1/7	7/7		7/	
	15 Length to fork face		in	mm	69.8	1,774	74.3	1,887	78.5	1,995
	10	Standard width	in	mm	41.7	1,060	41.7	1,060	41.7	1,060
	16	Width w/ wide stance drive wheels	in	mm		n/a		/a	n,	
1	17	Height with lowered mast	in	mm	79	2,000	79	2,000	79	2,000
i	18	Seat height to SIP	in	mm	36.2	920	36.2	920	36.2	920
	19	Height to top of overhead guard	in	mm	80.4	2,040	80.4	2,040	80.4	2,040
j	20	Height with extended mast	in	mm	166	4,216	166	4,216	166	4,216
	21	, ,		mm	56.7	1,440	60.9	1,548	65.2	1,655
j	22	Load moment constant	in in	mm	13.2 ¹⁾	335	13.4 ¹⁾	340	13.4 ¹⁾	340
	23	Minimum aisle - 90° stack – must add load length and clearance	in	mm	69.91)	1,780	74.3 ¹⁾	1,890	78.6 ¹⁾	2,000
		travel speed – loaded	mph	km/h	10	16	10	16	10	16
	24	travel speed – unloaded	mph	km/h	10	16	10	16	10	16
		lift speed – loaded	fpm	m/s	94.5	0.48	96.5	0.49	96.5	0.49
	25	lift speed – unloaded	fpm	m/s	118.1	0.60	118.1	0.60	118.1	0.60
	26	lowering speed – loaded	fpm	m/s	108.3	0.55	108.3	0.55	108.3	0.55
		lowering speed – unloaded	fpm	m/s	108.3	0.55	108.3	0.55	108.3	0.55
		maximum gradeability – loaded		%		28		27		7
i	28	maximum gradeability – unloaded		%		35		35	3	
i	29	Empty with minimum weight battery	lb	kg	5,947	2,698	6,520	2,957	6,627	3,006
	30	Axle load with rated load – front	lb	kg	7,434	3,514	8,474	4,014	8,480	4,015
		Axle load with rated load – rear	lb	kg	1,023	484	1,146	543	1,247	590
:		Axle load without load – front	lb	kg	2,885	1,309	3,067	1,391	3,243	1,471
- 1		Axle load without load – rear	lb	kg	3,062	1,389	3,453	1,566	3,384	1,535
		Tire size – front, standard solid pneumatic tires		n N9	18x7-8		18x7-8		18x	
	31	Tire size – rear solid pneumatic tires		n	140/55-9		140/55-9		140/55 - 9	
	32	Wheelbase	in	mm	49.2	1,249	53.4	1,357	57.7	1,465
	33	Tread width – front, standard solid pneumatic tires			35.6	904	35.6	904	35.6	904
	34	Ground clearance – rear solid pneumatic tires	in	mm	6.9	176	6.9	176	6.9	176
		l control of the cont		mm		80	3.1	80		80
-	35	i .	in	mm	3.1				3.1	100
	36			mm	3.9 100		3.9 100			
	37	Service brakes		pe	electric / mechanical		electric / mechanical		electric / mechanical	
-	38	Parking brakes		pe	electromagnetic lead-acid		electromagnetic		electromagnetic	
	39	Battery type Battery dimensions (length x width x height)					lead-acid 24.80 x 32.68 x 24.69		lead-acid 29.06 x 32.68 x 24.69	
	40	Battery – maximum capacity at 6 hour discharge rate		n Luur		2.68 x 24.69				
	41	, , ,	Ah	kWh	400	18.7	500	23.3	600	27.8
	42	Battery weight, minimum	lb	kg	1,497	679	1,791	812	2,147	974
	43	Motors traction output (60 min. rating) x 2	HP	kW	6.0	4.5	6.0	4.5	6.0	4.5
1	44	Controls – lift output (15% rating)	HP	kW	15.4	11.5	15.4	11.5	15.4	11.5
	45	1		pe	Impulse / AC		Impulse / AC		Impulse / AC	
1										
	46 47	hydraulic controls Relief pressure for attachments at auxiliary	psi ty	pe bar	2,900	AC 200	2,900	C 200	2,900	200

¹⁾ Add 1.0° (25 mm) if truck is equipped with a triplex mast. Add an additional 0.9° (23 mm) if equipped with an integrated sideshifter, or an additional 2.4° (60 mm) if equipped with a hang-on sideshifter.

* Lift with standard two-stage mast (ZT)

as of: 09/2012

		EFG 218k (3-wheel)			FFC 210 /	7	EFG 220 (3-wheel)		
					EFG 218 (
1	lb	kg	3,490	1,800	3,490	1,800	3,880	2,000	
2	in	mm 24 500		24 500		24 500			
3			elec		elec		elec		
4			solid pn		solid pn		solid pn		
5			2x/2		2x/2		2x		
11	in	mm	118	3,000	118	3,000	118	3,000	
12	in	mm	5.9	150	5.9	150	5.9	150	
	in	mm	1.6	40	1.6	40	1.6	40	
13	in	mm	3.9	100	3.9	100	3.9	100	
15	in	mm	43.0	1,100	43.0	1,100	43.0	1,100	
	in	mm	12.3/36	312/914	12.3/36	312/914	12.3/36	312/914	
14	de	eg	7/7		7/7		7/7		
15	in	mm	74.3	1,887	78.5	1,995	78.5	1,995	
16	in	mm	44.1	1,120	44.1	1,120	44.1	1,120	
10	in <i>mm</i>		n/a		n/a		n/a		
17	in	mm	79	2,000	79	2,000	79	2,000	
18	in	mm	36.2	920	36.2	920	36.2	920	
19	in	mm	80.4	2,040	80.4	2,040	80.4	2,040	
20	in	mm	166	4,216	166	4,216	166	4,216	
21	in	mm	60.9	1,548	65.2	1,655	65.2	1,655	
22	in	mm	13.4 1)	340	13.4 1)	340	13.4 1)	340	
23	in	mm	74.3 ¹⁾	1,890	78.6 ¹⁾	2,000	78.6 ¹⁾	2,000	
24	mph	km/h	10	16	10	16	10	16	
24	mph	km/h	10	16	10	16	10	16	
25	fpm	m/s	86.6	0.44	86.6	0.44	78.7	0.40	
25	fpm	m/s	108.3	0.55	108.3	0.55	108.3	0.55	
	fpm	m/s	108.3	0.55	108.3	0.55	108.3	0.55	
26	fpm	m/s	108.3	0.55	108.3	0.55	108.3	0.55	
	%		2	6	2	5	2	4	
28	%		35		3	5	3	5	
29	lb	kg	7,084	3,213	6,957	3,156	7,343	3,331	
	lb	kg	9,306	4,412	9,191	4,360	9,814	4,661	
	lb	kg	1,268	601	1,256	596	1,409	669	
30	lb	kg	3,066	1,391	3,298	1,496	3,259	1,478	
	lb	kg	4,018	1,822	3,659	1,660	4,084	1,853	
	in		200/5	50-10	200/5	50-10	200/5	50-10	
31	in		140/55-9		140/55-9		140/55-9		
32	in	mm	53.4	1,357	57.7	1,465	57.7	1,465	
33	in	mm	36	914	36	914	36	914	
34	in	mm	6.9	176	6.9	176	6.9	176	
35	in	mm	3.1	80	3.1	80	3.1	80	
36	in	mm	3.9	100	3.9	100	3.9	100	
37		type electric / mechanical			electric / mechanical		electric / mechanical		
38			electromagnetic		electromagnetic		electromagnetic		
39	+		lead-acid		lead-acid		lead-acid		
40	in		24.80 x 32.68 x 24.69		29.06 x 32.68 x 24.69		29.06 x 32.68 x 24.69		
41	Ah			600 27.8		29.06 x 32.68 x 24.69 600 27.8			
42	lb	kg	1,791	812	2,147	974	2,147	974	
43	HP	kW	6.0	4.5	6.0	9/4 4.5	6.0	4.5	
43	HP	kW	15.4	4.5 11.5	15.4	4.5 11.5	15.4	4.5 11.5	
45			ID.4 Impuls						
		pe	Impuis		Impulse / AC AC		Impulse / AC AC		
46	, ,			200		200			
47	psi dB	(A)	2,900		2,900 6		2,900	200 6	
-70	ub	(/ \/)	0		0		0	-	



Technical data

				EFG 316k (4-wheel)		EFG 316 (4-wheel)		EFG 318k (4-wheel)		
1	Capacity at rated load center	lb	kg	3,100	1,600	3,100	1,600	3,490	1,800	
2	Capacity at load center – distance	in	mm	24	500	24	500	24	500	
3	Power			ele	ctric	ele	ctric	elec	ctric	
4	Tire type – cushion, solid pneumatic			solid pr	solid pneumatic		neumatic	solid pneumatic		
5	Wheels (x = driven) number front / rear			2	2x/2		2x/2		2x/2	
11			mm	118	3,000	118	3,000	118	3,000	
12	Free fork height*	in	mm	5.9	150	5.9	150	5.9	150	
	Forks – thickness	in	mm	1.6	40	1.6	40	1.6	40	
	Forks – width	in	mm	3.9	100	3.9	100	3.9	100	
13	Forks – length	in	mm	43.0	1,100	43.0	1,100	43.0	1,100	
	Fork spacing – out-to-out minimum / maximum	in	mm	12.3/36	312/914	12.3/36	312/914	12.3/36	312/9	
14	Tilt – forward / backward	d	eg		7/7	7	7/7	7	/7	
15	Length to fork face	in	mm	78.3	1,990	82.6	2,098	78.3	1,99	
	Standard width	in	mm	41.7	1,060	41.7	1,060	44.1	1,120	
16	Width w/ wide stance drive wheels	in	mm	r	n/a	n	/a	n	/a	
17	Height with lowered mast	in	mm	79	2.000	79	2,000	79	2,00	
18	Seat height to SIP	in	mm	36.2	920	36.2	920	36.2	920	
19			mm	80.4	2,040	80.4	2,040	80.4	2,04	
20	Height with extended mast	in	mm	166	4,216	166	4,216	166	4,21	
21	Minimum outside turning radius	in	mm	73.2	1,859	78.1	1,985	73.2	1,85	
22	Load moment constant	in	mm	13.4 1)	340	13.4 ¹⁾	340	13.4 ¹⁾	340	
23	Minimum aisle - 90° stack – must add load length and clearance	in	mm	86.6 1)	2,200	91.5 1)	2,325	86.6 1)	2,20	
٠.	travel speed – loaded	mph	km/h	10.6	17.0	10.6	17.0	10.6	17.0	
24	travel speed – unloaded	mph	km/h	10.6	17.0	10.6	17.0	10.6	17.0	
25	lift speed – loaded	fpm	m/s	96.5	0.49	96.5	0.49	86.6	0.4	
25	lift speed – unloaded	fpm	m/s	118.1	0.60	118.1	0.60	108.3	0.5	
26	lowering speed – loaded	fpm	m/s	108.3	0.55	108.3	0.55	108.3	0.5	
26	lowering speed – unloaded	fpm	m/s	108.3	0.55	108.3	0.55	108.3	0.55	
20	maximum gradeability – loaded	:	%		27	2	27	2	6	
28	maximum gradeability – unloaded		%	;	35	3	35	3	5	
29	Empty with minimum weight battery	lb	kg	6,597	2,992	6,503	2,950	6,906	3,13	
	Axle load with rated load – front	lb	kg	8,542	3,967	8,372	3,998	9,149	4,30	
70	Axle load with rated load – rear	lb	kg	1,155	625	1,231	552	1,247	632	
30	Axle load without load – front	lb	kg	2,999	1,360	3,235	1,467	3,012	1,36	
	Axle load without load – rear	lb	kg	3,598	1,632	3,268	1,482	3,894	1,76	
	Tire size – front, standard solid pneumatic tires		n	18x7-8		18x7-8		200/	50-10	
31	Tire size – rear solid pneumatic tires		n	16:	x6-8	16>	(6-8	16x	6-8	
32	Wheelbase	in	mm	55.1	1,400	59.4	1,508	55.1	1,40	
33	Tread width – front, standard solid pneumatic tires	in	mm	35.6	904	35.6	904	36.0	914	
34	Ground clearance – rear solid pneumatic tires	in	mm	32.7	830	32.7	830	32.7	830	
35	Ground clearance – at lowest point at mast	in	mm	3.1	80	3.1	80	3.1	80	
36			mm	3.9	100	3.9	100	3.9	100	
37	Service brakes	at center of wheelbase in mm type type		electric / mechanical electromagnetic		electric / mechanical electromagnetic		electric / mechanic		
38	Parking brakes									
39	Battery type		lead - acid		lead - acid		lead - acid			
40			n	24.80 x 32.68 x 24.69		29.06 x 32.68 x 24.69		24.80 x 32.68 x 24.6		
41	Battery – maximum capacity at 6 hour discharge rate	Ah	kWh	500	23.3	600	27.8	500	23	
42		lb	kg	1,791	812	2,147	974	1,791	812	
43	1	HP	kW	6.0	4.5	6.0	4.5	6.0	4.5	
44		HP	kW	15.4	11.5	15.4	11.5	15.4	11.	
45	1				se / AC		se / AC			
46	-	type type		•	AC		1C	Impulse / AC		
47	Relief pressure for attachments at auxiliary	psi	bar	2,900	200	2,900	200	2,900	200	
48			B(A)		67		57		, 200 57	

¹⁾ Add 1.0° (25 mm) if truck is equipped with a triplex mast. Add an additional 0.9° (23 mm) if equipped with an integrated sideshifter, or an additional 2.4° (60 mm) if equipped with a hang-on sideshifter.

* Lift with standard two-stage mast (ZT)

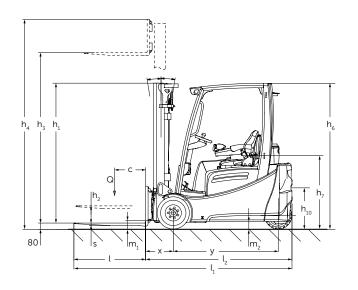
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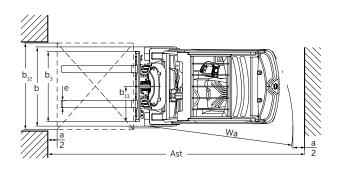
		EFG 318 (4-1		4-wheel)	EFG 320	(4-wheel)		
1	lb	kg	3,490	1,800	3,880	2,000		
2	in	mm	24	500	24	500		
3			elec	ctric	electric			
4			solid pn	eumatic	solid pn	eumatic		
5			2x	/2	2x	/2		
11	in	mm	118	3,000	118	3,000		
12	in	mm 5.9		150	5.9	150		
	in	mm	1.6	40	1.6	40		
17	in	mm	3.9	100	3.9	100		
13	in	mm	43.0	1,100	43.0	1,100		
	in	mm	12.3/36	312/914	12.3/36	312/914		
14	deg		7/7		7/7			
15	in	in <i>mm</i> 82.6 <i>2,0</i>		2,098	82.6	2.098		
1.0	in	mm	44.1	1,120	44.1	1,120		
16	in <i>mm</i>		n	/a	n/a			
17	in	mm	79	2,000	79	2,000		
18	in	mm	36.2	920	36.2	920		
19	in	mm	80.4	2,040	80.4	2,040		
20	in	mm	166	4,216	166	4,216		
21	in	mm	78.1	1,985	78.1	1,985		
22	in	mm	13.4 1)	340	13.4 1)	340		
23	in	in <i>mm</i> 91.5 ¹⁾		2,325	91.5 1)	2,325		
24	mph	km/h	10.6	17.0	10.6	17.0		
24	mph	km/h	10.6	17.0	10.6	17.0		
25	fpm	pm <i>m/s</i> 86.6		0.44	78.7	0.40		
25	fpm	m/s 108.3		0.55	108.3	0.55		
26	fpm	m/s	108.3	0.55	108.3	0.55		
26	fpm	m/s	108.3	0.55	108.3	0.55		
20	9	%	2	5	2	4		
28	,	%	3	5	3	5		
29	lb	kg	6,812	3,090	7,175	3,255		
	lb	kg	9,063	4,322	9,667	4,631		
70	lb	kg	1,239	568	1,388	624		
30	lb <i>kg</i> 3,25		3,251	1,475	3,232	1,466		
	lb	lb <i>kg</i> 3,561 <i>1,615</i>		1,615	3,943 1,789			
	i	n	200/5	50-10	200/5	50-10		
31	in		16x	6-8	16x	6-8		
32	in	mm	59.4	1,508	59.4	1,508		
33	in	mm	36.0	914	36.0	914		
34	in	mm	32.7	830	32.7	830		
35	in	n <i>mm</i> 3.1		80	3.1	80		
36	in			100	3.9	100		
37	type		electric / n	nechanical	electric / mechanical			
38	ty	ре	electron	nagnetic	electromagnetic			
39	39		lead -	- acid	lead - acid			
40	in		29.06 x 32	.68 x 24.69	29.06 x 32.68 x 24.69			
41	Ah	kWh	600	27.8	600	27.8		
42	lb	kg	2,147	974	2,147	974		
43	HP	kW	6.0	4.5	6.0	4.5		
44	HP	kW	15.4	11.5	15.4	11.5		
45		pe	Impulse / AC		Impulse / AC			
46	type		A		AC			
47	psi	bar	2,900	200	2,900	200		
48				7		7		
					1			



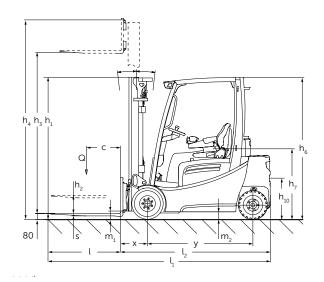
EFG 213 - 220 / 316k - 320

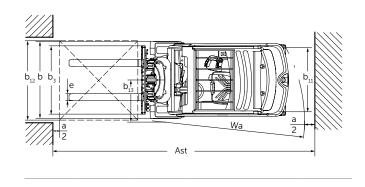
EFG 213-220





EFG 316k-320







The Jungheinrich Advantage







Convenient controls



snapFIT Battery Extraction



Ergonomic operator compartment

Superior operator comfort

The ergonomic operator compartment allows for relaxed and productive operation, particularly beneficial at the end of long shifts:

- Low-effort electric power steering allows for a smaller steering wheel and minimizes the number of revolutions necessary to make a turn.
- The elimination of hydraulic components in the leg area reduces steering-related noise and provides more leg room.
- Ability to tilt and telescope the steering column to suit the operator's needs.
- All essential controls are located on the highly-adjustable armrest, allowing for easy, intuitive operator control.
- Operators will experience an extremely comfortable ride on rough or uneven floors with the combination of solid pneumatic tires, a full-suspension seat and floating cabin.

Maintenance-free braking system

- Regenerative braking with the traction motor allows for smooth, energy efficient deceleration.
- Automatically engaging parking brake for secure stopping, even on ramps.
- Brake pedal operated, maintenance-free disc brakes allow for more aggressive stopping.

Maintenance-free motors

The new generation of 3-phase AC motors will impress – providing quiet and precise operation at all speeds.

- High torque for faster operation cycles.
- Lifetime lubrication of main components.
- Individually mounted drive motors for easier service and maintenance.
- Dust and water protection to IP54.

Control systems

High performance also requires a high degree of control. That's why the EFG series includes a comprehensive range of equipment for more secure operation:

- Deactivation of all hydraulic functions when the operator seat is not occupied.
- No roll-back on ramps or inclines with the automatic parking brake, even when the vehicle is switched off.
- Automatic progressive reduction of the driving speed during cornering with Jungheinrich curveCONTROL.

Intelligent electronics

- Smooth travel / reversing and precise positioning.
- Optimally adapts to any situation using five individual work programs.
- Efficient communication between the truck and operator / technician with the highly informative, interactive display.

Lithium-ion Package Advantages (available on EFG 213 / 216 / 218 and EFG 316 / 318 / 320)

- Fast charging with no need for battery exchanges
- Maintenance-free with no odors from gases or acidification
- Longer service life and lower maintenance compared with lead-acid batteries
- Charging can be interrupted at anytime
- 5-year battery warranty included

Parts when you need them

Jungheinrich's Parts Fast or Parts Free Guarantee ensures next-business-day delivery by 5:00 p.m. of all Jungheinrich parts in the United States, or they're free, including freight. For customers in Canada and Mexico, the guarantee ensures shipping of parts within 24 hours from the time the order was placed by the dealer. See your local Jungheinrich dealer for program details.

* Programs may be subject to change without notice and may vary by region. Please ask your local Jungheinrich dealer for complete terms and conditions.

