

# Harness the power.

Join the electric revolution  
with Kalmar ECG90-180  
9-18T forklift trucks.



# Giving you all the power you need.

## The power of experience.

With over 100,000 machines built since the 1940's, our new range of electric forklifts will deliver on your expectations, without compromise. They are built on our proven G-Generation platform with an electric driveline and rigorously tested electric and hydraulic systems. They perform as well as diesel models, both indoors and out.



### The power of choice.

The Kalmar forklift range is available with lifting capacities from 9 to 18 tonnes, three different lifting masts and a range of battery solutions to suit the lifting capacity and size of the machine. Kalmar Lifetime Services offers a comprehensive range of service, maintenance and spare parts packages, so you can keep your new forklift working at its operational best.

### The power of safety.

Kalmar's electric forklifts all offer highly responsive handling and superior visibility from the cabin, helping to keep your driver safe and in complete control at all times. There are a range of options available, including Blue Safety Lights, a Reverse Warning System, ECO mode, Adjustment of Brake Power, Speed Adjustment and additional lighting to help keep your operator and by-standers extra safe.

### The power of sustainability.

Our new range of zero-emission electric forklifts are ISO50001 compliant, which means they meet the highest emissions standards. They are exceedingly quiet and vibrate much less than a standard diesel-powered forklift, making them not only great to operate, but also invaluable for your reputation and environmental credentials.



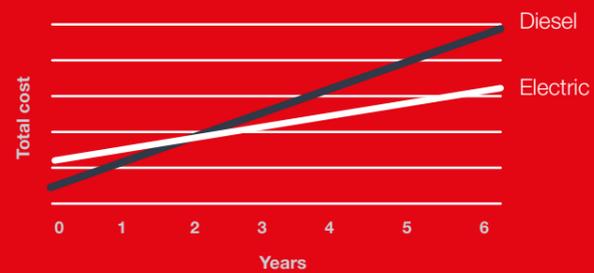
## Now ready for heavy loads.

With our electric forklifts now being able to lift up to 18 tonnes they can handle much heavier loads, making them ideal for industrial applications. Coupled with a short wheel base where space is limited, they are built to handle heavy loads indoors or out.

# Good for business, great for the environment.

Reducing your emission shouldn't come at a cost, it should be beneficial to both the environment and your bottom line.

## A two year payback period.



Using a Kalmar Electric Forklift truck pays off in the long run. In just 2 years time Kalmar's new Electric Forklift truck will break even compared to the equivalent diesel truck.

Kalmar's zero-emission forklifts deliver on both accounts. They are just as powerful and efficient as diesel models without producing any harmful emissions. In fact, they produce zero emissions at source, which will help you substantially cut your fuel bills, while improving your environment credentials.

## It pays to go green.

With our new electric forklifts, you will benefit from reduced fuel costs, spend up to 50% less on servicing - as electric machines have less moving parts - and longer service intervals, both helping to maximise machine availability. Even though electric forklifts cost a little more than diesel models, the payback period is only two years. After this time, the savings really start to add up.

## Ready for the future.

As all of our electric forklifts are ISO50001 compliant and have zero emissions, your machine will be ready to meet any new emissions standards in the future.



# A healthier working environment.

Electric forklifts have always been seen as specialist machines for handling sensitive goods, in fact they deliver many additional benefits:



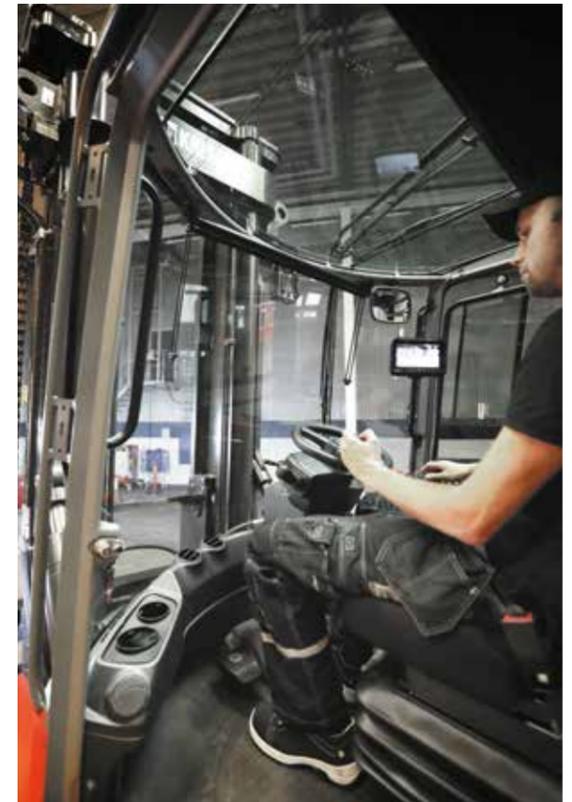
Less vibrations make handling sensitive goods safer and reduce stress and strain on your operator's body.



Electric forklifts are extremely quiet, making working indoors less disruptive for both operators and by-standers.



As electric forklifts produce no exhaust fumes they are safe to operate inside and where other staff are working or sensitive goods are stored.



# Efficient and productive.

Buying an electric forklift doesn't mean compromising on power, as electric drivelines provide full torque immediately and are smoother to operate. This will make operating cycles shorter, driving up your operational productivity. With extended servicing cycles and improved diagnostic tools your machine will benefit from higher availability rates than the diesel alternatives.

## A simpler design.

Electric forklifts have less moving parts than diesel models. Without the need to change the starter motor, turbo or change fuel filters, servicing and maintenance on the machine will take less time and cost up to 50% less. As less parts are required, your parts replacement costs and stock levels will also be substantially reduced.



## A better driving experience.

All our electric forklifts have our ergonomically designed EGO cabin fitted as standard. This cabin has been built to provide a superior driving experience. With adjustable control panels, steering wheel and seat, which can also be rotated with the push of a button, your driver will be happier and more comfortable. The slim line B-Pillars provide an exceptional level of visibility, making the machine safer to operate, especially in busy environments.



## Better control.

With all of our electric forklifts you will be able to have greater control over your machine with the speed pedal. Not only will you benefit from instant acceleration, you will also be able to slow down immediately by just taking your foot off the speed pedal.



## Reduce power consumption by up to 20%.

Kalmar ECO Drive allows you to optimise your truck's performance with three different modes:

- Power Mode:** when speed is of the essence. With full engine power, you will be able to move quickly about, lift and lower at full speed, without compromising on safety.
- Normal Mode:** when you need to retain some speed. With a slightly reduced engine speed you can expect 5-15% lower running and energy costs.
- Economy Mode:** when you need the lowest running costs. With engine speed reduced even further you can expect 10-20% lower running and energy costs.



# Technical information.

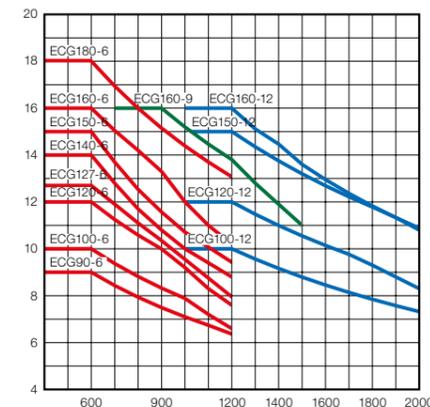
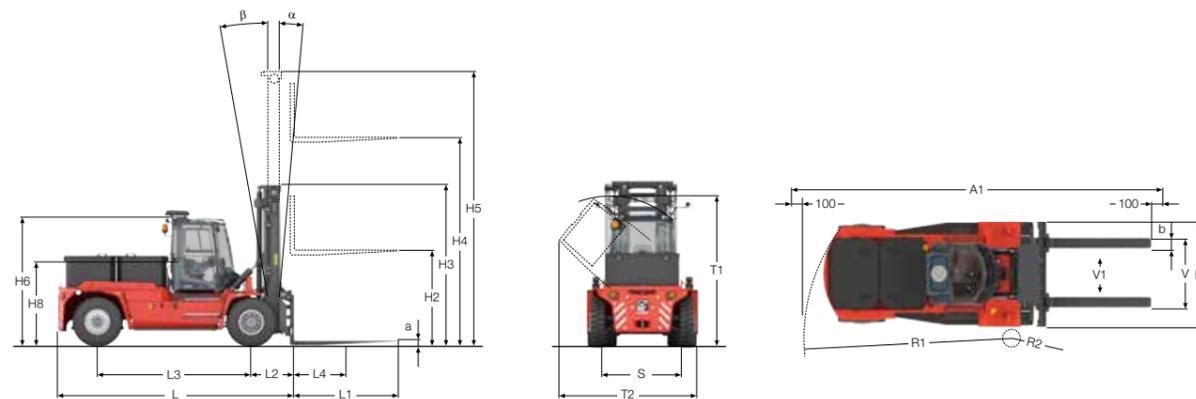
			ECG90-6	ECG100-6	ECG120-6	ECG127-6	ECG140-6	ECG150-6	ECG100-12	ECG120-12	ECG150-12	ECG160-6	ECG160-9	ECG160-12	ECG180-6	
<b>LIFTING CAPACITY</b>	Rated	kg	9000	10000	12000	12700	14000	15000	10000	12000	15000	16000	16000	16000	18000	
	Load centre	L4 mm	600	600	600	600	600	600	1200	1200	1200	600	900	1200	600	
<b>TRUCK DIMENSIONS</b>	Truck length	L mm	4615	4615	4615	4615	4830	4900	4910	5170	5420	5170	5410	5420	5410	
	Truck width	B mm	2480	2480	2480	2480	2480	2540	2540	2540	2540	2540	2540	2540	2540	
	Height, base machine, EGO	H6 mm	2895	2895	2895	2920	2920	2920	2920	2920	2920	2920	2920	2920	2920	
	Seat height, EGO	H8 mm	1770	1770	1770	1790	1790	1790	1790	1790	1790	1790	1790	1790	1790	
	Distance between centre of front axle – front face fork arm	L2 mm	895	895	900	900	910	980	990	990	1000	980	990	1000	990	
	Wheelbase	L3 mm	2800	2800	2800	2800	3000	3000	3000	3000	3250	3500	3250	3500	3500	3500
	Track (c-c), front – rear	S mm	1840 / 1960	1840 / 1960	1840 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960
	Turning radius, outer	R1 mm	4180	4180	4180	4180	4360	4360	4360	4360	4785	5175	4785	4785	5175	4785
	Turning radius, inner	R2 mm	75	75	75	75	125	125	125	125	420	600	420	420	600	420
	Ground clearance, min.	mm	330	330	330	350	350	350	350	350	350	350	350	350	350	350
	Height when tilting cab, max. EGO	T1 mm	3370	3370	3370	3390	3390	3390	3390	3390	3390	3390	3390	3390	3390	3390
	Width when tilting cab, max EGO	T2 mm	3350	3350	3350	3380	3380	3380	3380	3380	3380	3380	3380	3380	3380	3380
	Min. aisle width for 90° stacking with forks	A1 mm	6470	6470	6475	6475	6665	6735	7945	8370	8770	7160	8160	8770	8160	
	<b>Standard duplex mast</b>	Lifting height	H4 mm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
		Mast height, min	H3 mm	4015	4015	4015	4035	4035	4195	4195	4195	4195	4195	4195	4195	4195
		Mast height, max	H5 mm	6515	6515	6515	6535	6535	6535	6535	6535	6535	6535	6535	6535	6535
		Mast tilting, forward – reverse	a – β °	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10
	Ground clearance, min.	mm	250	250	250	250	250	250	250	250	250	250	250	250	250	250
	<b>Forks</b>	Width	b mm	200	200	200	200	200	200	220	220	250	200	220	250	220
		Thickness	a mm	65	65	70	70	80	80	90	90	100	80	90	100	90
		Length of fork arm	l mm	1200	1200	1200	1200	1200	1200	2400	2400	2400	1200	1800	2400	1200
		Width across fork arms, max.	V mm	2330	2330	2330	2330	2330	2360	2360	2360	2360	2360	2360	2360 / 700	2360 / 640
		Width across fork arms, min.	V mm	570	570	570	570	570	600	640	640	700	600	640	700	640
Sideshift. ± at width across fork arms	V1 – V mm	440 / 1450	440 / 1450	440 / 1450	440 / 1450	440 / 1450	440 / 1480	430 / 1500	430 / 1500	415 / 1530	440 / 1480	430 / 1500	415 / 1530	430 / 1500		
<b>WEIGHT</b>	<b>Weight</b>	With battery	kg	17000	17000	17100	17600	18500	20500	20000	21500	22900	21200	21400	23800	22400
		Without battery	kg	–	–	–	–	–	–	–	–	–	–	–	–	–
	<b>Axle load front</b>	Unloaded	kg	8500	8500	8600	8600	9000	10300	10500	10700	10900	10400	10600	10900	10400
		At rated load	kg	22300	23900	27000	28100	30000	33200	27800	30800	35300	34800	34000	37000	36600
	<b>Axle load rear</b>	Unloaded	kg	8500	8500	8500	9000	9500	10200	9500	10800	12000	10800	12000	12900	12000
At rated load		kg	3700	3100	2100	2200	2500	2300	2200	2700	2600	2400	3400	2800	3800	
<b>WHEELS</b>	<b>Wheels/tyres</b>	Type, front – rear	Pneumatic			Pneumatic										
<b>BRAKES</b>		Dimensions, front – rear	t11,00x20/16PR			12,00x20/20PR										
<b>STEERING</b>		Number of wheels, front – rear (*driven)	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	
		Pressure	MPa	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	1,0	1,0
	<b>Steering system</b>	Type – manoeuvring	Hydraulic Servo – Steering wheel			Hydraulic Servo – Steering wheel										
	<b>Service brake system</b>	Type – affected wheels	Oil cooled disc brakes – Drive wheels			Oil cooled disc brakes – Drive wheels										
	<b>Parking brake system</b>	Type – affected wheels	Dry, spring activated disc brakes – Drive wheels			Dry, spring activated disc brakes – Drive wheels										
<b>MISC.</b>	<b>Hydraulic pressure</b>	Max.	MPa	16,0	17,0	17,5	18,0	19,0	16,5	12,5	15,0	17,0	17,0	17,5	18,0	19,0
	<b>Hydraulic fluid volume</b>		l	215	215	215	215	220	220	220	220	220	220	220	220	220

# Performance.

			ECG90-6	ECG100-6	ECG120-6	ECG127-6	ECG140-6	ECG150-6	ECG100-12	ECG120-12	ECG150-12	ECG160-6	ECG160-9	ECG160-12	ECG180-6		
<b>PERFORMANCE</b>	Lifting speed @ 70%	Unloaded	m/s	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	
		At rated load	m/s	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35
	Lowering speed	Unloaded	m/s	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45
		At rated load	m/s	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50
	Traveling speed, F/R	Unloaded	km/h	20	20	20	20	20	20	20	20	20	20	20	20	20	20
		At rated load	km/h	18	18	18	18	18	18	18	18	18	18	18	18	18	18
	Gradeability, max	Unloaded	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		At rated load	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Gradeability, at 2 km/h	Unloaded	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		At rated load	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drawbar pull		kN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Noise level, inside*</b>	LpAZ, EGO Cabin	dB(A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	LpAZ, EGO Cabin OHG	dB(A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Noise level, outside**</b>	LwAZ	dB(A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

# Driveline.

			ECG90-6	ECG100-6	ECG120-6	ECG127-6	ECG140-6	ECG150-6	ECG100-12	ECG120-12	ECG150-12	ECG160-6	ECG160-9	ECG160-12	ECG180-6	
<b>DRIVELINE</b>	Drive axle - type		Differential and hub reduction				Differential and hub reduction									
	Drive motor, hourly capacity	kW	2 x 37 kW				2 x 37 kW									
	Speed control, principle - number of steps		High frequency MOSFET, AC - Stepless				High frequency MOSFET, AC - Stepless									
	Pump motor hydraulics, intermittent capacity – duty factor		2 x 50 kW - S3 15%				2 x 50 kW - S3 15%									
	Pump motor brakes, intermittent capacity – duty factor		1 x 5,1 kW - S3 15%				1 x 5,1 kW - S3 15%									
	Pump control, principle - number of steps		High frequency MOSFET, AC - Stepless				High frequency MOSFET, AC - Stepless									
<b>BATTERY</b>	Number of batteries		2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Dimensions (WxHxL)	mm	1638x718x780	1638x718x780	1638x718x780	1638x718x780	1638x862x780	1638x862x780	1638x862x780	1638x998x780	1638x1150x780	1638x998x780	1638x1150x780	1638x1150x780	1638x1150x780	1638x1150x780
	Capacity at 5h discharging - voltage	Ah - V	2x620 - 120	2x620 - 120	2x620 - 120	2x620 - 120	2x775 - 120	2x775 - 120	2x775 - 120	2x930 - 120	2x1085 - 120	2x930 - 120	2x1085 - 120	2x1085 - 120	2x1085 - 120	2x1085 - 120
	Max charging current	A - V	x - 120	x - 120	x - 120	x - 120	x - 120	x - 120	x - 120	x - 120	x - 120	x - 120	x - 120	x - 120	x - 120	x - 120
	Battery weight (1 battery)	kg	2100	2100	2100	2100	2600	2600	2600	3250	3760	3250	3760	3760	3760	3760



# Lifting data.

# Mast options.

# Standard.

DUPLEX STANDARD, CLEAR VIEW	Lift height	Mast height		Free lift	Mast height		Free lift
	H4	H3 min	H5 max	H2	H3 min	H5 max	H2
	ECG90-140*			ECG100-180**			
3000	3015	4515	-	3195	4695	-	
3250	3140	4765	-	3320	4945	-	
3500	3265	5015	-	3445	5195	-	
3750	3390	5265	-	3570	5445	-	
4000	3515	5515	-	3695	5695	-	
4500	3765	6015	-	3945	6195	-	
5000	4015	6515	-	4195	6695	-	
5500	4265	7015	-	4445	7195	-	
6000	4515	7515	-	4695	7695	-	
6500	4765	8015	-	4945	8195	-	
7000	5015	8515	-	5195	8695	-	

DUPLEX FULL FREE LIFT, CLEAR VIEW	Lift height	Mast height		Free lift	Mast height		Free lift
	H4	H3 min	H5 max	H2	H3 min	H5 max	H2
	ECG90-140*			ECG100-180**			
3000	3015	4515	1500	3195	4695	1500	
3250	3140	4765	1625	3320	4945	1625	
3500	3265	5015	1750	3445	5195	1750	
3750	3390	5265	1875	3570	5445	1875	
4000	3515	5515	2000	3695	5695	2000	
4500	3765	6015	2250	3945	6195	2250	
5000	4015	6515	2500	4195	6695	2500	
5500	4265	7015	2750	4445	7195	2750	
6000	4515	7515	3000	4695	7695	3000	
6500	4765	8015	3250	4945	8195	3250	
7000	5015	8515	3500	5195	8695	3500	

TRIPLEX FFL, CW	Lift height	Mast height		Free lift	Mast height		Free lift
	H4	H3 min	H5 max	H2	H3 min	H5 max	H2
	ECG90-140*			ECG100-180**			
4500	2950	5950	1500	3130	6190	1500	
5000	3117	6450	1667	3297	6690	1667	
5500	3283	6950	1833	3463	7190	1833	
6000	3450	7450	2000	3630	7690	2000	
6500	3617	7950	2167	3797	8190	2167	
7000	3783	8450	2333	3963	8690	2333	

Duplex mast:  
3000-7000 mm



Duplex full free mast:  
3000-7000 mm



Triplex full free mast:  
4500-7000 mm



## Cabin, EGO

- Machinery Directive 2006/42/EC
- Std seat incl. 2-point belt.
- Clear windows incl. sliding windows in left and right door.
- Complete doors with locks left and right side.
- Complete manoeuvre system right hand console incl. std display (electric adjustable).
- Multi function level left side incl. horn, direction indicator, high and low beam.
- Brake system with pedal left and right side.
- Internal comfort incl. mirrors, handles, interior lighting etc.
- Wiper and washers front/rear and roof window.
- Hydraulic steering system incl. steering wheel with steering wheel knob.
- External reverse lights.
- Cab tilting
- Heat and ventilation ECH with fresh air inlet filter.
- Speed control pedal right side.
- Kalmar std key system.

## Driveline

- Steering axle: Kalmar
- Drive axle: Kessler hub end with wet disc brakes
- Motor: Drive motor, 2x37 kW
- Hydraulics pump motor, 2 x 50kW
- Accumulator pump motor, 5,1 kW
- Power electrics: 120V AC-technology

## Hydraulics

- Electric servo
- 2 functions
- Environment-friendly breather filter, hydraulic tank

## Body

- Tiltable cab
- Steps with anti-slip protection.
- Tilt angles std 5/10.
- Lifting eyes in mast

## Electrical system

- Electrical system 24 V.
- Rear lights and brake lights, LED.
- Working light front fenders 2 pcs, LED
- Working light mast 2 pcs, LED
- Flashing brake lights when reversing
- Indicator lamps incl. hazard lights, LED.
- Main power switch
- Battery for 8h normal intensity operating time and central water topping system

## Wheels

- ECG90-120: 11,00x20/16PR
- ECG100-180: 12,00x20/20PR

## Colour

- Cab: Kalmar Grey (Base ref RAL 7037/75)
- Chassis: Kalmar Red 2012 (Base ref RAL 3000/75)
- Lifting equipment: Kalmar Black (Base ref RAL 7021/30)

## Documentation and decals

- Operators manual (electronic).
- Maintenance manual (electronic).
- Parts catalogue (electronic).
- Load diagram in cab
- Warning decals
- Information decals
- Diagram, fuses
- Sound plate (legal requirement in EU/EEC)



+25 mm on H3 and H5 on the ECG140  
\* ECG90-140-6  
\*\* ECG150-180-6, ECG160-9, ECG100-160-12



**KALMAR**

Making your every move count

[www.kalmarglobal.com](http://www.kalmarglobal.com)

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