

ECO
EFFICIENCY
IN ACTION

The Kalmar

ELECTRIC HEAVY FORKLIFT

ECG180-330

40,000 - 72,000 lbs capacity



KALMAR

The time is now to go **ELECTRIC**

Kalmar's electrically powered forklifts can help improve the eco-efficiency of your operations while maintaining the highest levels of productivity and safety. The Kalmar Heavy Electric Forklift is ideal for lifting loads up to 72,000 lbs for the metal, forestry, automotive, concrete, energy and container handling sectors.



A complete line up.

The Kalmar Heavy Electric Forklift completes our electrically powered range. Our latest electrically powered forklift can lift loads from 40,000 up to 72,000 lbs and has a choice of modular battery options and charging solutions for you to choose from, which is dependent on your work cycle. We will work with you to design a solution that deliver for your business based on the experience and knowledge we have built up over the last 40 years of developing electrically powered solutions.

Eco-efficiency built in.

Being electrically powered, your forklifts will produce zero carbon emissions at source, making them cleaner and safer to operate. You can cut your carbon emissions even further by using green energy sources where available or start to generate and use your own power. Getting an electrically powered forklift is only the start of your eco-efficient journey. One where we will be with you every step of the way.



Productive by nature.

With an electrically powered driveline your drivers will notice a big difference with faster and smoother acceleration and more responsive handling while still being able to lift up to 72,000 lbs efficiently and safely. Less time will be spent servicing and maintaining your electrically powered forklift, improving availability and uptime, as it has less moving and mechanical parts, plus you will be able to keep it running optimally within a broader range of temperatures with Kalmar's Thermal Management System (TMS) fitted as standard.

Safety in focus.

Kalmar's range of electrically powered forklifts offer highly responsive handling and superior visibility from the cabin, helping to keep your driver safe and in control at all times. Your drivers will also benefit from reduced cabin noise and vibrations as our electrically powered forklift driveline is extremely quiet and smooth. There are also a large range of safety options available that can further enhance the safety of your equipment and the drivers operating them.



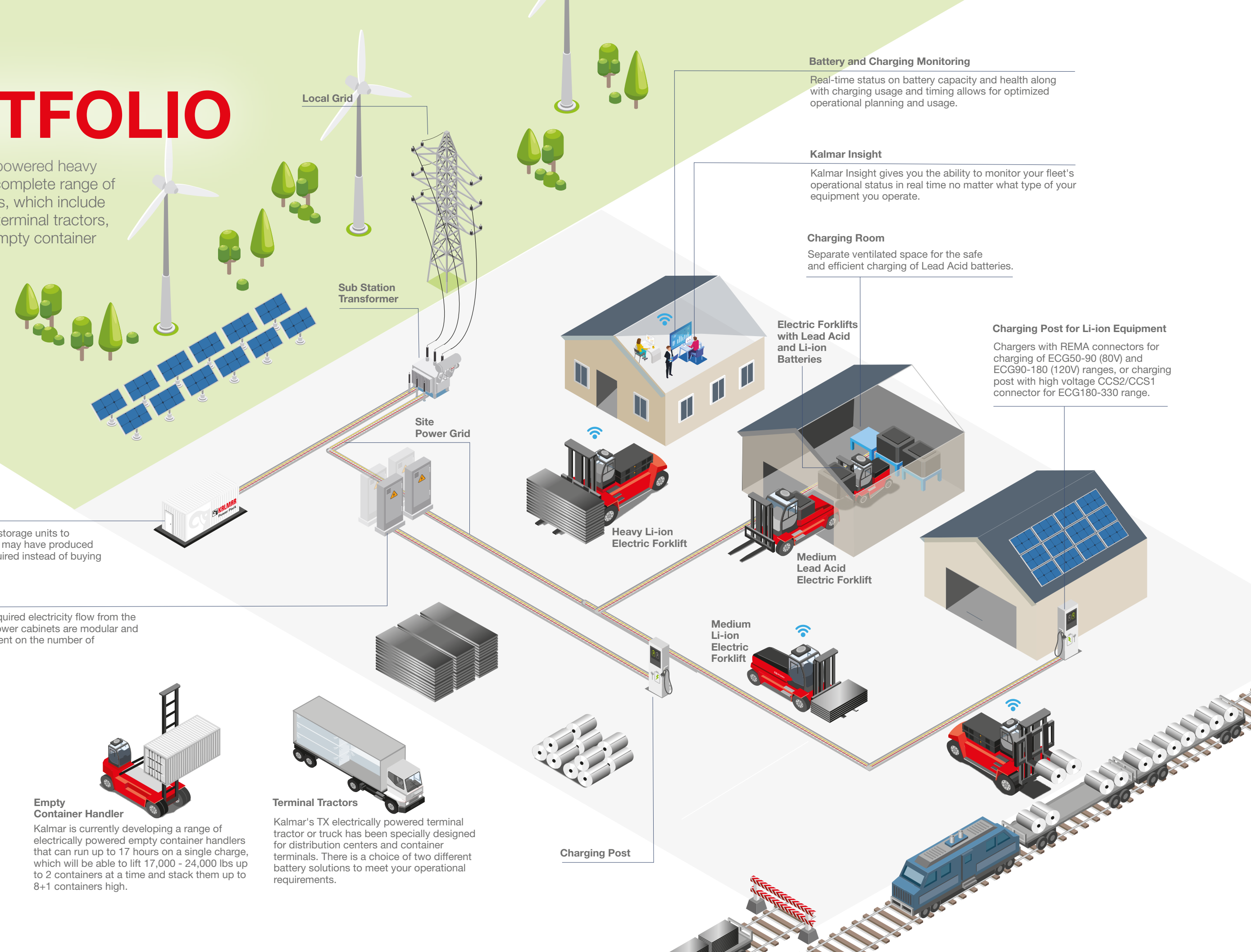
For complete peace of mind.

All Kalmar Electric Forklifts come with a 1 year/2000 hour warranty. Charging solutions are covered for 2 years and batteries for up to 5 years. Additional warranties between 2 and 10 years / 4,000 - 20,000 hours are available and are tailored to your individual needs.



Our electric PORTFOLIO

Kalmar's electrically powered heavy forklift is part of our complete range of eco-efficient solutions, which include electrically powered terminal tractors, reachstackers and empty container handlers.



Battery and Charging Monitoring

Real-time status on battery capacity and health along with charging usage and timing allows for optimized operational planning and usage.

Kalmar Insight

Kalmar Insight gives you the ability to monitor your fleet's operational status in real time no matter what type of your equipment you operate.

Charging Room

Separate ventilated space for the safe and efficient charging of Lead Acid batteries.

Electric Forklifts with Lead Acid and Li-ion Batteries

Charging Post for Li-ion Equipment

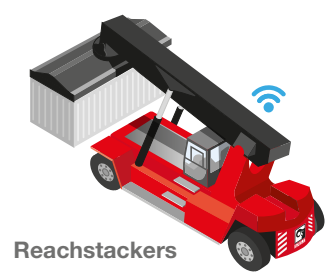
Chargers with REMA connectors for charging of ECG50-90 (80V) and ECG90-180 (120V) ranges, or charging post with high voltage CCS2/CCS1 connector for ECG180-330 range.

Additional Energy Storage

You can use additional energy storage units to capture excess power that you may have produced to use at a later time when required instead of buying from the grid.

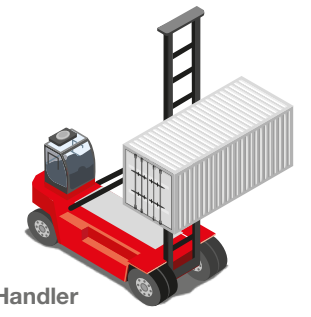
Power Cabinets

Power cabinets manage the required electricity flow from the grid to your charging points. Power cabinets are modular and the number required is dependent on the number of charging points required.



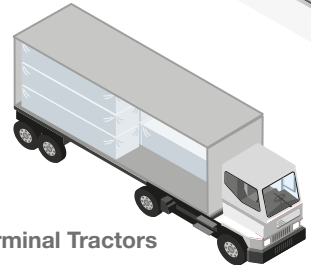
Reachstackers

Kalmar offers a choice of electrically powered reachstackers with a wide range of lifting applications, battery solutions and a 99,000 lbs lifting capacity.



Empty Container Handler

Kalmar is currently developing a range of electrically powered empty container handlers that can run up to 17 hours on a single charge, which will be able to lift 17,000 - 24,000 lbs up to 2 containers at a time and stack them up to 8+1 containers high.



Terminal Tractors

Kalmar's TX electrically powered terminal tractor or truck has been specially designed for distribution centers and container terminals. There is a choice of two different battery solutions to meet your operational requirements.

Charging Post

The POWER is in your hands

Eco-efficient by nature.

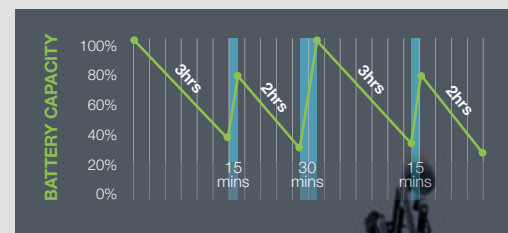
By combining powerful yet highly effective electrical motor solutions, the forklift will operate smoothly and productively giving you a highly efficient driving and cargo handling experience. While producing zero carbon emissions at source.

The complete system has been designed to minimize energy usage while maximizing performance. Regenerative power from the braking system returns power to the batteries, further enhancing the overall efficiency of the system.

To meet a variety of operational work cycles we offer various combinations of battery sizes and charging capacities, to keep your electric forklift running optimally.

PRELIMINARY OPERATIONAL HOURS	ECG180-220		ECG250			ECG280-330	
	163 kWh	245 kWh	163 kWh	245 kWh	392 kWh	245 kWh	392 kWh
Light	5	7.5	4.5	7	11	6	9.5
Medium	4	6.5	4	6	9.5	5.25	8.5
Heavy	3.75	5.75	3.5	5.25	8.25	4.5	7.25

Three battery sizes to choose from.

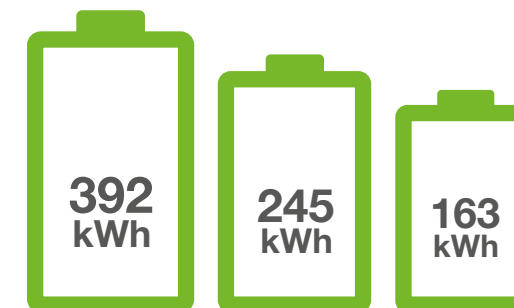


Opportunity charge to match work cycles.

Modular by design.

Batteries and chargers are a big part of your overall investment making it critical that you get a solution that is matched to your operational requirements, which is why Kalmar has taken a modular approach to our battery and charging solutions.

There are several different charging solutions with charging capacities from 90-350 kW and three different Li-ion batteries to choose from. Our battery solutions all come with an up to 5 year warranty and have an expected 10-12 year life*. Kalmar can help you work out which battery option and charging solution is right for your business based on your current work cycles.



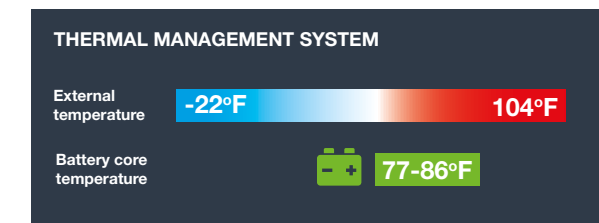
Managing your power.

Kalmar's Battery Monitoring System continually manages and monitors the voltage, temperature, coolant and current flow of your battery solution to ensure that it operates optimally over its lifetime. This system also controls the charging of the batteries by redirecting recovered energy back into the battery packs making sure you are using the power available as efficiently as possible.

Productive in extreme weather conditions.

Our portfolio of electrically powered forklifts all come fitted with a Thermal Management System as standard, which allows your equipment to run optimally even in extreme weather conditions. The system keeps your core battery temperature between 77-86°F for optimal performance even when the temperature outside gets down to -22°F or up to 104°F.

By linking the Thermal Management System to the Climate Control System, energy used to heat or cool the operator's cabin will be reduced by 5%. Not only keeping your drivers comfortable, but reducing the overall energy required to run the AC or heating.



Extra safe.

With any electrically powered high voltage system you need to be extra safe which is why we have encased and shielded all high voltage lines. Should any connection be interrupted the whole system will automatically shut down keeping your team safe. Knowing how to work with high voltage power sources is extremely important which is why Kalmar has specifically designed a High Voltage training course to enhance the skills of your workers and keep them extra safe.



BE SAFE

Kalmar's Battery Management System manages and monitors:

- State Of Charge (SOC)
- Current
- Voltage
- Temperature
- Cooling & heating (summer & winter)
- Charging power
- Fast basic charging
- Slower top charging
- Cell status and information.



* First life measured as 80% capacity left in the battery.

OPTIONS



Kalmar has a range of options that make operating your equipment even safer:



Alcolock. To ensure that your driver is at their best when operating your equipment you can install an Alcolock system. This system makes sure that the driver meets alcohol blood level standards before being able to start the machine, much like a breathalyser.



Additional lighting. Extra lighting, particularly if you operate your machine at night, as you can bring greater operational visibility and safety for personnel working on the site. You can choose additional LED working lamps on specific positions.



Reverse Beeper System. When your staff are working side by side with moving vehicles there is always a safety risk. Installing a reverse beeper system provides a clear acoustic alert when the machine is reversing so personnel can make sure that they are out of harm's way at all times.



Reverse Warning System. Knowing what's going on behind you is critical when other personnel are present. Rear sensors and a reversing camera relay real-time information to an in-cabin display, alerting the driver to potential dangers, increasing personnel and driver safety. You can also add additional cameras e.g. on the front of the machine, on the mast, carriage or forks.



Kalmar has a range of solutions that will help make your equipment more eco-efficient and sustainable:



Tire Pressure Monitoring System. Helps to reduce wear and tear on tires which results in reduced fuel consumption. Bluetooth sensors keep the driver advised of the condition of the tires. Active care of your tires can result in a 10-40% increase in tire life.

DESIGNED

for the driver

Ergonomically designed.

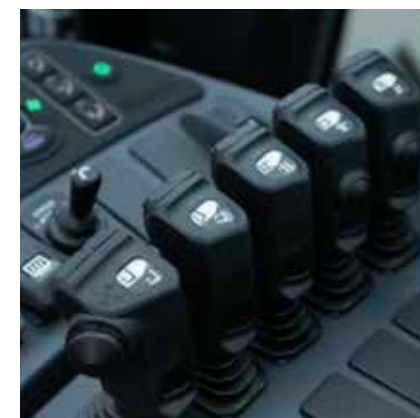
Kalmar Electric Heavy Forklifts come fitted with our ergonomically designed EGO cabin. With slim line a-pillars, adjustable seating, steering wheel and control panel, your drivers will benefit from a superior operating environment and visibility.

The Kalmar Electric Heavy Forklift with its electrically powered driveline, is quieter inside and outside the cabin, vibrates less than traditional forklifts and produces no carbon emissions, further enhancing driver comfort and safety.



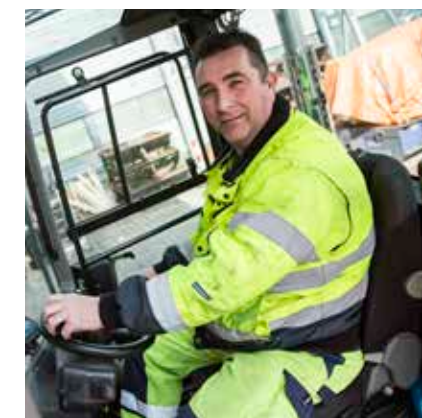
Easy to operate.

Our electrically powered heavy forklift comes with a wide choice of hydraulic control levers or joysticks, an electronically adjustable work console and side tilting steering wheel. All designed to make operating your forklift easier and more efficient.



More comfortable.

With a choice of comfortable driver seats and powerful Electronic Climate Control system with smarter controls your operator will benefit from improved ventilation heating and cooling, plus a cabin with superior comfort and lowest noise level inside and outside.



Extra smart.

Our intuitive user interface combines visibility, sound and touch to create a perfectly balanced operating environment with an intelligent color display at its heart. Advanced diagnostics, battery status overview and smart settings allow improved operational control and optimal opportunity charging planning.



SUPPORT

when and where you need it

Our job doesn't stop once we deliver your new Kalmar forklift. Our dealer network offers a range of support services that help keep your new equipment running at its optimal best, including service and maintenance packages, Kalmar Genuine Parts, Kalmar Insight (a performance management tool for your fleet) and a range of financing options. To find what would work best for your operations, speak to your local dealer who will be happy to tailor a service and support package to meet your specific needs.

Support through extensive network of Kalmar Authorized Dealers.



Financing options.

You may choose to buy your new forklift outright or consider leasing or renting your equipment. Your local Kalmar Authorized Dealer offers a range of leasing and renting options that can give you the financial predictability you need and the option to upgrade your equipment after a fixed period.

You just need to choose which leasing package and level of service and maintenance support is right for your business. No matter what your service and support needs are, make sure you speak to your local Kalmar Authorized Dealer first.



When the right part matters.

When something needs to be replaced you need a spare part that meets your exact needs – urgently – you can't do better than a Kalmar Genuine Part. Only Kalmar Genuine Parts are guaranteed to fit perfectly and keep your equipment running optimally.

Kalmar together with your local dealer carries a large range of essential spare parts and service kits at all times. All other parts can be ordered by your dealer through one of our global parts warehouses which are located around the world, assuring you can get the right part quickly and efficiently - minimizing your equipment downtime and maximizing productivity.



Kalmar Insight. Turning data into actionable, impactful insights.

Kalmar Insight* is a performance management tool for cargo handling, which gives you an easy-to-use overview of your fleet operations, by aggregating data from multiple sources, including equipment built by other manufacturers. This information is then delivered through an accessible user interface that is available on cell phones, tablet or on office-based screens.

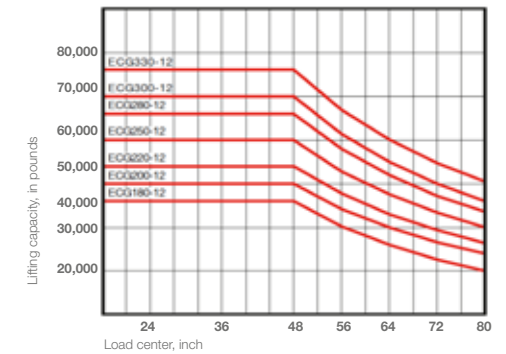
You can review your entire fleet's performance, schedule maintenance activities, and review operational data for each piece of equipment. All enabling you to act on real-time information that will help improve your overall operations immediately. Kalmar Insight comes fitted and ready to be activated in all new Kalmar equipment, and can be retrofitted into existing Kalmar equipment or those built by other manufacturers.

*Installation costs and/or an annual subscription fee may apply.

SPECIFICATIONS*

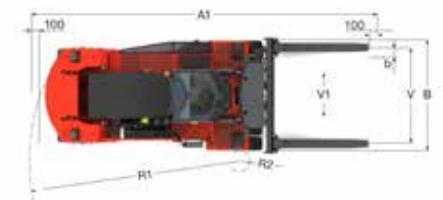
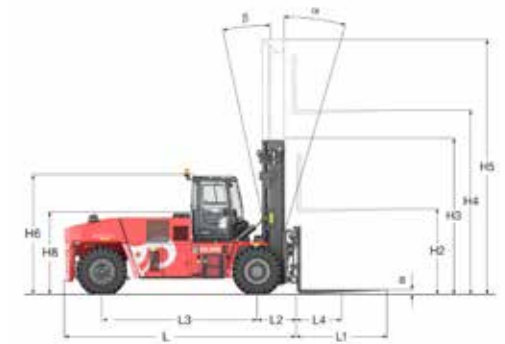
				ECG180-12	ECG200-12	ECG220-12	ECG250-12	ECG280-12	ECG300-12	ECG330-12	
LIFTING CAPACITY	Rated		lbs	40000	44000	48000	55000	60500	66000	72000	
	Load center	L4	in	48	48	48	48	48	48	48	
DIMENSIONS	Truck length	L	in	240	240	240	250	273	273	273	
	Truck width	B	in	120	120	120	120	135	135	135	
	Height, base machine, EGO	H6	in	130	130	130	130	136	136	136	
	Seat height, EGO	H8	in	85	85	85	85	91	91	91	
	Distance between center of front axle – front face of fork	L2	in	42	42	42	42	45	45	45	
	Wheelbase	L3	in	157	157	157	167	187	187	187	
	Track (c-c), front – rear	S	in	87 / 87	87 / 87	87 / 87	87 / 87	96 / 100	96 / 100	96 / 100	
	Turning radius, outer	R1	in	220	220	220	231	262	262	262	
	Turning radius, inner	R2	in	16.7	16.7	16.7	21.7	37.4	37.4	37.4	
	Ground clearance, min.		in	11.8	11.8	11.8	11.8	11.8	11.8	11.8	
	Height when tilting cab, max. EGO	T1	in	150	150	150	150	150	150	150	
	Width when tilting cab, max EGO	T2	in	146	146	146	146	150	150	150	
	Min. aisle width for 90° stacking with forks	A1	in	365	365	365	376	406	406	406	
	Standard duplex mast	Lifting height	H4	in	197	197	197	197	197	197	197
		Mast height, min	H3	in	170	170	170	170	178	178	178
		Mast height, max	H5	in	269	269	269	269	276	276	276
		Mast tilting, forward – reverse	a – β	°	5/10	5/10	5/10	5/10	5/10	5/10	5/10
		Ground clearance, min.		in	-	-	-	-	-	-	-
	Forks	Width	b	in	9.8	9.8	9.8	9.8	11.8	11.8	11.8
		Thickness	a	in	4.3	4.3	4.3	4.3	4.3	4.3	4.3
		Length of fork arm	l	in	94.5	94.5	94.5	94.5	94.5	94.5	94.5
		Width across fork arms, max.	V	in	106	106	106	106	124	124	124
		Width across fork arms, min.	V	in	31	31	31	31	33	33	33
		Sideshift. ± at width across fork arms	V1 - V	in	22 / 62	22 / 62	22 / 62	22 / 62	25 / 75	25 / 75	25 / 75
	WEIGHT	Weight	With standard battery	lbs	68785	70770	73415	76940	88405	90830	95240
		Axle load front	Unloaded	lbs	37700	37700	37700	38800	48500	48500	48500
			At rated load	lbs	100750	106925	113320	123460	140655	147270	157190
Axle load rear		Unloaded	lbs	31085	33070	35715	38140	39905	42330	46740	
	At rated load	lbs	8380	7935	8380	8600	9700	9920	11025		
WHEELS	Wheels/tires	Type, front – rear		Pneumatic / Pneumatic		Pneumatic / Pneumatic					
		Dimensions, front – rear		14.00x24	14.00x24	14.00x24	14.00x24	16.00x25	16.00x25	16.00x25	
		Number of wheels, front – rear (*driven)		4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	
		Pressure	psi	145	145	145	145	145	145	145	
STEERING	Steering system	Type – maneuvering		Hydraulic Servo – Steering wheel		Hydraulic Servo – Steering wheel					
BRAKES	Service brake system	Type – affected wheels		Oil cooled disc brakes – Drive wheels		Oil cooled disc brakes – Drive wheels					
	Parking brake system	Type – affected wheels		Dry, spring activated disc brakes – Drive wheels		Dry, spring activated disc brakes – Drive wheels					
MISC.	Hydraulic pressure	Max.	MPa	2393	2611	2901	3191	2828	2973	3191	
	Hydraulic fluid volUme		gal	95	95	95	95	95	95	95	

Load capacity in pounds



ECG180-250: Full lifting capacity up to 276 in lift height with duplex/duplex freelif mast, integrated sideshift/fork positioning carriage and forkshaft system.

ECG280-330: Full lifting capacity up to 276 in lift height with duplex/duplex freelif masts, integrated sideshift/fork positioning carriage and forkshaft system.



* All data is correct at time of publication.

POWERTRAIN*

		ECG180-12	ECG200-12	ECG220-12	ECG250-12	ECG280-12	ECG300-12	ECG330-12	
Motor	Drive motor, manufacturer - type designation	BoschRexroth EMS-series(Permanent Magnet Synchronous Motor)							
	Type of motor	AC							
	Drive motor power, rated continuous (S9) - max	hp (kW)	202 - 452 (151 - 337)						
	Drive motor Torque, rated continuous (S9) - max	ft-lb	177 - 390						
	Pump motor hydraulics, rated continuous (S9) - max	hp (kW)	148 - 308 (110 - 230)						
Auxiliary motor, rated continuous (S9) - max	hp (kW)	31 - 67 (23 - 50)							
Transmission	Transmission, manufacturer - type designation	BoschRexroth							
	Driving axle, manufacturer - type	Kessler D91 - Differential and hub reduction							
	Energy consumption, normal driving (preliminary)	kWh/h	30	32	33	35	40	42	45
	Energy consumption according EN 16796	kWh/h	34	36	38	41	48	51	54
Battery	Battery technology	Li-ion - NMC (LiNiMnCoO2)							
	Battery nominal capacity - standard	kWh	163	163	163	163	245	245	245
	Battery usable capacity - @25C; +/-5% (BoL)	kWh	139	139	139	139	210	210	210
	Battery nominal capacity - Optional kWh 245	kWh	245	245	245	245 & 392	392	392	392
	System voltage, rated - max	V	565 - 754						
	Charging inlet capacity	kW	0 - 300						
Charging inlet standard		CCS1 or CCS2							

PERFORMANCE*

		ECG180-12	ECG200-12	ECG220-12	ECG250-12	ECG280-12	ECG300-12	ECG330-12	
Lifting speed	Unloaded	fps	1.3	1.3	1.3	1.3	1.1	1.1	1.1
	At 70% rated load	fps	1.3	1.3	1.3	1.3	1.1	1.1	1.1
Lowering speed	Unloaded	fps	1.1	1.1	1.1	1.1	1.0	1.0	1.0
	At rated load	fps	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Travelling speed, F/R	Unloaded	mph	15 / 15	15 / 15	15 / 15	15 / 15	15 / 15	15 / 15	15 / 15
	At rated load	mph	15 / 15	15 / 15	15 / 15	15 / 15	14 / 14	14 / 14	14 / 14
Gradeability, max	Unloaded	%	57	54	51	48	42	41	38
	At rated load	%	33	30	28	26	23	22	21
Gradeability, at 5 km/h	Unloaded	%	26	25	24	23	20	20	19
	At rated load	%	16	15	14	13	12	11	10
Drawbar pull	Max	kN	33700	33700	33700	33700	34800	34800	34800

* All data is correct at time of publication.



LIFTING EQUIPMENT*

	Lift height	Mast height		Free lift	Mast height		Free lift
	H4	H3 min	H5 max	H2	H3 min	H5 max	H2
DUPLEX STANDARD LFL		ECG180-250			ECG280-330		
	118	131	190	-	139	198	-
	138	141	209	-	148	217	-
	157	150	229	-	158	237	-
	177	160	249	-	168	257	-
	197	170	269	-	178	276	-
	217	180	288	-	188	296	-
	236	190	308	-	198	316	-
	256	200	328	-	207	335	-
	276	209	347	-	217	355	-
DUPLEX FFL	118	135	194	59	139	198	59
	138	144	213	69	148	217	69
	157	154	233	79	158	237	79
	177	164	253	89	168	257	89
	197	174	272	98	178	276	98
	217	184	292	108	188	296	108
	236	194	312	118	198	316	118
	256	204	331	128	207	335	128
	276	213	351	138	217	355	138
TRIPLEX FFL	179	138	257	67	x	x	x
	182	x	x	x	145	261	64
	203	146	274	75	x	x	x
	236	x	x	x	163	315	83
	256	163	327	93	x	x	x
	274	169	344	98	x	x	x

* All data is correct at time of publication.

ATTACHMENTS



Carriage sideshift / fork positioning



Carriage with kissing forks for steel handling



Fork shaft system (Hook on type or roller type)



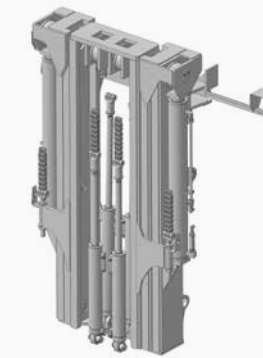
Coil ram



Duplex standard



Duplex free lift



Triplex full free lift





KALMAR

Making your every move count

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