

ELECTRIC HEAVY FORKLIFT

ECG180-330 40,000 - 72,000 lbs capacity



0.74

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.



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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.

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.



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.



Local Grid

Sub Station Transformer

> Site **Power Grid**

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.

Medium Li-ion Electric Forklif

Heavy Li-ion

Electric Forklift

Charging Post

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

Electric Forklifts

Medium

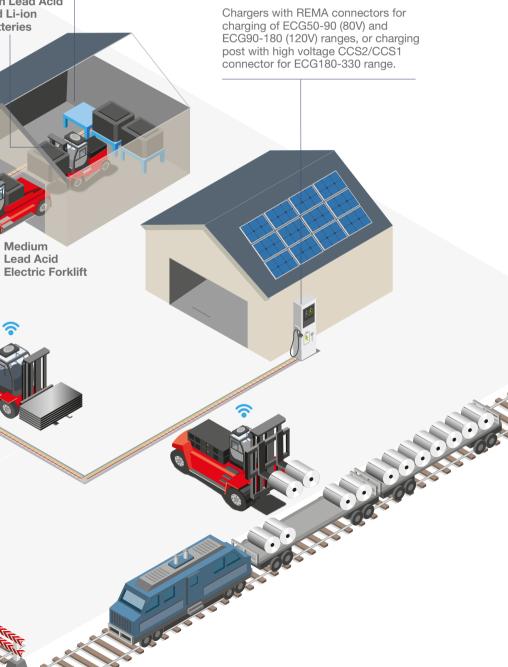
Lead Acid

with Lead Acid and Li-ion

Batteries

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

Charging Post for Li-ion Equipment



The **POWER** is in your hands

Eco-efficient by nature.

By combining powerful vet 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 e system.

To meet offer var charging running

y system returns power to the batteries, enhancing the overall efficiency of the st a variety of operational work cycles we prious combinations of battery sizes and g capacities, to keep your electric forklift g optimally.	100% 80% 60% 40% 20% 15 mins mins mins mins	
Ī		6
ECCO EFFICIENCY IN ACTION		

OPERATIONA HOURS

163 kWh 245 kWh

3.75 5.75

Three battery sizes to choose from.

163 kwh 245 kwh 392 kwh 245 kwh 392 kwh

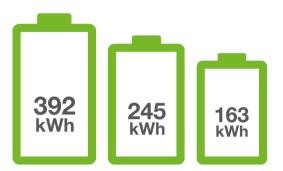
3.5 5.25 8.25 4.5 7.25

6 9.5 5.25 8.5

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 cvcles.



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.

Kalmar's Battery Management System manages and monitors:

- State Of Charge (SOC)
- 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.

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.

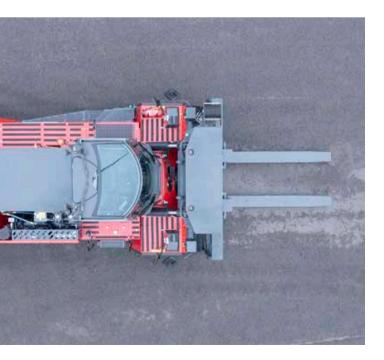
By linking the Thermal Management System to the Climate Control System, energy used to heat or cool the operator's cabin will be reduced by 5%. Not only keeping your drivers comfortable, but reducing the overall energy required to run the AC or heating.



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.





OPTIONS

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



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.



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.

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.

(D)

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 EFFICIENCY 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

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 guieter 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.

seats and powerful Electronic

and outside.









More comfortable.

With a choice of comfortable driver 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

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.

STANDARD

ECG180-330 (40.000 - 72.000 lbs)

Norms, Standards and Regulations

- Machinery Directive 2006/42/EC
 Safety Industrial Trucks ISO 3691-1 & EN 16307-1
- Safety Low & High Lift Trucks ANSI/ITSDF B56.1
- Stability test ISO 22915
 High Voltage Directive 2014/35/EU
- CE-marking for trucks within EU/EEA
- ANSI/ITSDF-marking for North America trucks

Chassis

- Strong, durable and welded box-type chassis
 Powerful front end unit for drive axle and
- lift mast fixations Solid tilt cylinder fixations in chassis and mast
- Solid til Cylinder itzations in chassis and mast
 Full access to the entire powertrain with tilting cabin
 Easy access to battery, TMS and power distribution
- Very good visibility forward up, sideways and rear
- Low cabin mounting for easy access on both sides
- Right side access stairway (steps/handles) and
- left side ladder. • Lifting eyes and achor points (front & rear)
- Towing pin through rear counter weight (long handle)

- · Strong and protective steel mudquards (front / rear)
- Long bottom anti-slip access step (on left side)
- · Short access steps and hand rails to the cabin
- Short anti-slip access steps (2x on left side. 3x on riaht side)
- Big rear view mirrors on front mudguards (2x)
- Welded lamp brackets on front mudquards (2x)
- Basic noise insulation kit of the forklift

Steer Axle (Rear)

- Kalmar steer axle mounted dual pivot bearings
- Steer axle with mechanical side stops El-servo power steering with double acting cylinder
- Steer axle with narrow turning radius
- Steer links of "dog bone type" (easy to change)

Drive Axle (Front)

- Kessler D91 axle with differental and
- hub reduction
- Maintenance-free oil-cooled Wet Disc Brakes (WDB)
- Single disc parking brake, spring loaded & hydraulic release
 High pressure filter (10 μm) for the brakes

- Wheels (Tires & Rims)
- ECG180-250: diagonal tire 14.00x24"/PR28 / rim 10.00x24"
- ECG280-330: diagonal tire 16.00x25"/PR32 / rim 11.25x25"

Powertrain

- Bosch-Rexroth electric AC-motors (PM/synchron/ 3-phase)
- Single drive motor (202/452 hp) with water cooling.
- Single pump motor (148/308 hp) with water cooling
- Single auxiliary motor (31/67 hp) with water cooling 2-speed mechanical drive transmission with cooling
- Re-generative brake system / energy back to battery
- · Water cooling and heating for motors, inverters & battery Electric motors and inverters are protected.
- on the inside

Power electrics (670V)

- Electric system voltage 670V (High Voltage Directive)
- Power distribution (670V) mounted on left side
- International charging standards CCS1 and CCS2
- Charging connection plug (CCS) mounted on left side Charging unit with indicator lights and hatch cover

Battery (Lithium-ion)

- Lithium-lon integral battery units with TMS and rear mount
- High capacity technology (NMC-type) up to 4-5,000 cycles
- Maintenance-free battery solution with 90-95% efficiency · Battery with passive and active cooling and heating (TMS)
- · Battery Management System (BMS) with CanBus
- ECG180-250: battery capacity 163 kWh
- ECG280-330: battery capacity 245 kWh

Thermal Management System (Lithium-ion)

- nart controls of cooling and heating units
- . TMS with cooling unit, water tank, pump and cooler TMS with onboard heating unit and from grid connection
- TMS with passive-active-standby cooling and heating
- TMS cooling of motors, inverters and battery.
- . TMS heating of motors, inverters, battery, oils and cabin
- · Power limitation functions to optimize consumption
- Limp home function at low SOC% (drive speed 5 mph)

· Multi-function lever left side (parking brake/travel direction switch)

Load-Sensing Hydraulics

- Rexroth load-sensing piston pumps (2x / electric drive) · Power-on-demand function with high lifting speeds
- Pumps for lift mast_tilt cylinders_carriage and forks
- Pump for brake oil pressure, steering and oil cooling
- Power steering, power brakes & ORFS-couplings Beturn filters for the work hydraulics (2x/10 µm)
- Pressure filter for hydraulics / brakes (10 µm)
- Hydraulic tank (95 gal), cooler, breath filter &
- level glass Mast tilt angles: 5°Fwd / 10°Bwd
- Oil heater, 1 kW, 400V, 3-phase (5 conductor, 32A)

Lifting Mast

 Large selection of mast types and lifting heights Duplex Standard: a 2-stage mas

· Combined horn and turn signal lever

• Warning - parking brake (on/off) leaving seat

ECC, electronic heating, cooling (AC) & ventilation

• Powerful cab heater, power 6.0 kW (20,500 Btu)

High-capacity ventilation unit, air flow 284 cfm

Multiple individual blowers (8x up / 2x down)

Fresh air and recirculation filter (replaceable)

Information Systems

Operator menu

Clock and date

Service indicator

Failure indicator

Low brake oil pressure

· Low coolant level battery

High coolant temp battery

Low power battery volt level

Low/high battery cell temp

· Low washer fluid level

Indicator lamps:

High beam

Parking brake

Fuse diagram

Instruction manual

Maintenance manual

Spare parts catalogue

Fleet Management

Cabin: Iron-Grev BAL 7011

Rims: Iron-Grey RAL 7011

Documentation and Decals

Load chart diagram inside cabin

Accelerator / Brake settings:

System voltageTravelling speed (km/h or mph)

Operating time (hour meter)

Battery discharge indicator

• Trip computer / statistics

Charging batterySafety system disconnected

Service time indicator (hours)

Hydraulic and brake oil temperatures

• Status of heating system & AC system

Various warning lights & signals:

Low coolant level electrical components

· High coolant temp electric components

· Low/high battery cell volt level unbalanced

power batteryHydraulic and brake oil temperature

Direction indicaton (fwd/neutral/rev)

Chassis, tanks & fenders: Red RAL 3000

Mast, carriages, forks and axles: Black RAL 7021

Equipped with telemetric hardware for Kalmar Insight

• Machine data sign on chassis (left side) with load chart

Kalmar standard warranty: 12 months / 2,000 hours

Kalmar battery warranty: 60 months / 10,000 hours

Warning, tire pressure & oil pressure stickers

Lift lever / joystick with function labels

Strong AC cooling unit, power 14.0 kW (47,700 Btu)

• Double wipers / washers on front window (large area)

Interval winer functions on front roof & rear windows

Single wipers / washers on roof and rear windows

Kalmar CanBus controls with 4.3" color monitor

Programmable accelerator in 10 steps (1-10)
Accelerator; from soft to fast (low to high energy)

Menu controller with toggle wheel & push buttons

Programmable settings and monitoring of all systems

• Programmable brake re-generation in 10 steps (1-10)

Brake regeneration; feed energy back to the battery

- Strong, durable lift mast design, 1 pair of cylinders & chains
- Heavy-duty mast profiles and strong cross members Mast with strong mast wheels, bearings &
- quide pads Large diameter shafts / bearing for mast / strong
- tilt fixations

Fork Carriage

- Large selection of fork carriages, types and optionals
- Carriage with strong wheels, bearings & guide pads
 Combined hydraulic sideshift and fork positioning (SS/FP)
- · Long strokes of both sideshift and fork positioning
- Carriage is connected to the mast by 2 lift chains
- ECG180-250: carriage width 118" • ECG280-330: carriage width 134"
- Large selection of fork dimensions, tapering
- and designs
- Strong fixation of integral forks (shaft, bearing & wheel)
- High quality forks with optimized tapering and fork tip
 ECG180-250: dimension 9.8"x4.3"x94.4" (WxTxL)
- ECG180-250: dimension 11.8"x4.3"x94.4" (WxTxL)

Electrical System 24V

Cabin (EGO)

and content

Structure)

& hydraulics

all directions

Comfort

high back

2-point safety belt

forward-reverse)

buttons etc

Controls

slim-line design

Structure

- Electric central (24V) mounted on chassis (left side)
- Electric control cabinet behind driver (easy access)
 2 LED working lights on front fenders (main beam)
- 2 LED working lights on mast (first cross member) 2 LED working lights on rear counterweight
 4 directional turn signal lights (front / rear)

• 2 tail / 2 brake LED-lights in rear counterweight

The tail / brake lights are flashing when reversing
Reverse camera (wide angle/IR night light), 7" monitor, full

• Spacious, modern cabin with great ergonomy level

FOPS certified drivers cabin (Falling Object Protection

• Strong profiles, pillars and cross members of

Fully tiltable cabin with full access to powertrain

Tinted windows including laminated front window

• Kalmar drivers seat, mechanical spring suspension,

Comfort seat, fully adjustable, seat sensor &

Electric adjustable work console (up-down /

Inside rear view mirror (right side)

Double brake pedals (L + R)

Interior lights with fade away function

Work console; lift levers, climate controls, lamp

Fully adjustable steering wheel with tilt function
Power steering wheel with steer knob

Lever for electronic parking brake (on/off)
Safety override for hydraulic functions (by code)

· Electronic lift levers / joystick for mast, tilt and fork functions

Auto rev-up accelerator at lifting / tilting / fork positioning
Electric accelerator pedal (hanging)

• LED background light for buttons & switches

Large access doors on both sides with air-damper & kev-lock

• Large window sections with great visibility in

Sliding windows in both access doors

HD resolution (1920x1080p) mounted on right side of cabin

• 1 Blue safety light, rearward (reversing) or forward • 1 Red safety light, rearward (reversing) or forward 1 Red safety zone light, Left and Right direction 1 LED light inside cabin electic cabinet 1 LED strobe light rear mounted (adjustable) • 1 LED strobe light rear mounted (activated by

reverse dear)

Cabin

Structure

Comfort

3-point seat belt

Seat cover in vinyl

Seat heating

Controls

Climate

• Tool kit

Camera Safety

Safety Functions

OPTIONS

ECG180-330 (40.000 - 72.000 lbs)

Steel grid protections on working liahts

• Spare wheels, tires and rims of various brands

• Diagonal and radial tires of well known brands

• ECG180-250: tire 14.00x24"/PR28 / rim 10.00x24"

• ECG280-330: tire 16.00x25"/PR32 / rim 11.25x25"

• Extra hydraulic function including hoses (per function)

Push-button controlled hydr. function via magnet valve

• Quick release couplings "aerogrip" 1/2" (per function)

Individual fork positioning with 5th hydraulic function

Hydraulic cylinder accumulator for lifting "auto on/off"

• Extra functions for attachments (paper, steel, precast)

• Duplex Standard (no FL); lift heights 3.00 - 8.00 m

• Duplex Freelift (full FL); lift heights 3.00 - 7.00 m

• Triplex Freelift (full FL); lift heights 4.50 - 7.00 m

• ECG180-250: carriage low profile (minus 11.8")

Sideshift/fork position with hydraulic center levelling

• Other fork cross sections and/or materials (on request)

Fork mountings: roller-type, hook-type or pin-type
Fork Shaft System: hook-type / pin-type (guick-change)

Hvdraulic levelling fork, up/down, on left or/and right fork

Tapering: 0-23.6" full thickness / 23.6"-to tip with taper

• Tapering: various optional tapering / short or full taper

Electrical System 24V • Radio FM-AM, RDS, MP3, USB, Bluetooth, Stream • Radio FM-AM, RDS, MP3, USB, Bluetooth, Stream,

• Power sockets: 2x24V and 2x12V (in door columns)

Reverse alarm: beeping or white noise (multi frequency)

Power sockets: 2x24V and 1x12V + 2xUSB (5V)

Mast with automatic vertical tilt function (auto-tilt)

2 extra LED working lights - rear on cabin ramp (fwd)
4 extra LED working lights - rear on cabin ramp (mix)

. 6 extra LED working lights - rear on cabin ramp (mix)

• 1 extra LED working lights - between tilt cyl. (+ step)

• 2 Halogen working lights - high + low beam (repl LED)

• 2 extra LED working lights - front on cabin roof

1 | ED warning beacon (adjustable pole left side)

1 LED warning beacon rear on counterweight

1 LED warning beacon (activated by reverse gear)

2 extra LED working lights - in mast (fwd)

Electric air pressure horn

(by reverse gear)

Lamps

Attachment set: carriage sides, brackets, chains

• Other carriage widths on request (up to 197")

Additional pair of lower carriage wheels

• Fork Shaft System (FSS): hook or pin type

· Factory integration of various attachment

See fork dimensions under Specifications

• ECG180-250: lengths 94.4", 98.4", 118.1

• Other fork lengths on request (up to 197")

• FSS: forks, specials, coil ram or attachments

Kissing forks: chamfer inside/outside (roller-type)

Kissing forks: chamfer inside/outside (ESS hook)

• ECG280-330: lengths 94.4", 98.4", 118.1"

Other lift heights / closed heights on request

Additional pair of lower mast wheels

• ECG180-250: carriage width 126"

Protection against opening when clamped load

• ECG180-250: battery capacity 245 kWh

• ECG250-330: battery capacity 392 kWh

Hydraulic cylinder accumulator for lifting.

Models with standard wheelbases

Diagonals from Continental (CM+)

Radials from Michelin (XZM)

· Other brands up on request

Battery (Lithium-ion)

Hvdraulics

Lifting Mast

Fork Carriage

(quick-change)

& hoses

Forks

Extra mud flaps (front and rear)

Wheels (Tires & Rims)

Chassis/Body

 Overload indication for lift/tilt incl. speed limit Speed limit; default 9 mph (by service) Speed limit at specified load (by service) • Speed limit at specified lift height (H4) (by service) Speed limit set by customer in display: default 9 mph Tire pressure monitoring system (TPMS / Bluetooth) Alcolock Draeger in cabin

 Globetrotter cabin, height +7.8", roof 0.5" (repl 0.25") • Elevated cabin 11.8" for increased visibility (+1 step) • Rotatable Driver Seat, electric 180 deg (to the left) · Steel grid protection for front window

- Steel grid protection for roof window
- Flat front window with steel profiles, tinted and laminated • Door opening holder (left side and / or right side)
- Roof window 0.5" (repl standard 0.25")
- Electric cabin tilt pump (up/down)
- External cabin reverse mirrors (2x)
- External cabin reverse mirrors (2x) with heating
- Electric heated mirrors (front mudguards)
- Electric heated + adjustable mirrors (front mudguards)

Air cusioned driver seat with horizontal suspension

- Extended seat backrest · Headrest for driver's seat Armrest adjustable left side
- Leather reinforced seat, high back, heat, 3-pt belt • Grammer Actimo XL; air cushion, high, heat, 2-pt belt • BEGE 3700; air cushion, high, heat, 2-pt belt, leather r.i. ISRI 6830KA/880; air cushion, high, heat, 2-pt belt, leath • Extra trainer seat; leather, foldable, low, 2-pt belt · Bracket for terminal and monitor (right side)
- Travel direction switch on 1st lift lever (F-N-R) Electronic joystick (EGO)
- Electronic lever steering (without feedback)
- · Electronic mini-wheel steering
- Search light maneuverable via remote control

• Sun visors: front, roof, rear windows (other models)

Additional Equipment

- Enhanced Safety Package including:
 Speed limit: default 9 mph
- Blue safety light backwards via back alarm Rear warning radar (with rev camera / cab monitor)
- Seat belt interlock (OK before drive/seatbelt ON) • Fire suppression system (semi-auto/Dafo Forrex)
- Central greasing system (14-18-24 grease pts.) • Tilt indicator of mechanical type • Tilt indicator of electronic type (in display)
- Electronic weight indicator (machine controls)
- Heat protection kit (incl hoses) Heat protection mechanical kit
- Wheelnut protection (steer wheels
- Slow vehicle warning sign (road traffic / LGF)

• Front mast camera - to cab monitor • Front carriage camera - to cab monitor • Rear warning radar (with rev camera / cab monitor) Monitor 7" Quad, 4 inputs (repl. Monitor 7" Duo) Monitor 10" Quad, 4 inputs (repl. Monitor 7" Duo) • DVR recorder, 4 channels (SD-card 128 GB)

Eco Drive Modes (EDM)

• Performance mode settings: Power - Normal - Eco

Information Systems

VDI - Vehicle Data Interface

- Fleet ManagementKalmar Insight licence (only certified countries)
- Kalmar Insight Driver Monitor
- (RFID reader + 10 unique driver tags) Kalmar Insight extra driver tags (10 tags)

- Other RAL color than standard, chassis
- Special and multiple colors, chassis Other color than standard, striping foil
- Beinforced anti-corrosion protection.

Documentation and Decals Extra set of documentation

- Workshop manuals
- Load chart lbs/inch in cab & sign "no riders"
- Documentation on memory stick

Training

- Various training packages (drivers, service, maintenance, software)
- Contact Kalmar Training Center for more information

Warranty

- Additional warranty packages available:
- Gold, Silver and Bronze packages (5-10 yr / 10-20,000 hours)
- Contact Kalmar for more information

SPECIFICATIONS*

					ECG180-12	ECG200-12	ECG220-12	ECG250-12	ECG280-12	ECG300-12	ECG330-1
LIFTING		Rated		lbs	40000	44000	48000	55000	60500	66000	72000
CAPACITY		Load center	L4	in	48	48	48	48	48	48	48
		Truck length	L	in	240	240	240	250	273	273	273
		Truck width	В	in	120	120	120	48000 55000 60500 66000 72000 48 48 48 48 48 48 240 250 273 273 273 120 120 135 135 135 130 130 136 136 136 130 130 136 136 136 130 136 45 45 45 42 42 45 45 45 157 167 187 187 187 2707 87/87 96/100 96/100 96/100 220 231 262 262 262 16.7 21.7 37.4 37.4 37.4 150 150 150 150 146 146 150 150 167 77 77.8 77.8 170 170 17.8 17.8 170 5/10 5/10 5/10			
		Height, base machine, EGO	H6	in	130	130	130				
		Seat height, EGO	H8	in	85	85	85	85	91	91	72000 48 273 135 136 91 45 187 96/100 262 37.4 11.8 150 178 276 5/10 124 33 25/75 95240 48500 157190 46740 11025 5 16.00×25 4* - 2 145 145
		Distance between center of front axle – front face of fork	ween center of front axle - front L2 in 42 42 4 L3 in 157 157 157	42	42	45	45	45			
		Wheelbase	L3	in	157	157	157	167	187	187	 72000 48 273 135 136 91 45 187 96 / 100 262 37.4 11.8 150 406 197 178 276 5/10 - 11.8 33 25 / 75 95240 48500 157190 46740
		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	6000 72000 48 48 273 273 135 135 136 136 91 91 45 45 187 187 / 100 96 / 100 262 262 87.4 37.4 11.8 11.8 150 150 150 150 150 150 406 406 197 197 178 178 276 276 5/10 5/10 - - 11.8 11.8 4.3 4.3 94.5 94.5 94.5 94.5 124 124 33 33 5/75 25 / 75 0830 95240 8500 48500 47270 157190 2330 46740 920 11025 *-2 4*-2 145 145 945 145 920 16.00×25 *-2 4*-2 145 145
		Width when tilting cab, max EGO	T2	in	146	146	146	146	150	150	
(0		Min. aisle width for 90° stacking with forks	A1	in	365	365	365	376	406	406	406
Ň	Standard duplex mast	Lifting height	H4	in	197	197	197	197	197	197	197
ISN		Mast height, min	H3	in	170	170	170	170	178	178	72000 48 273 135 136 91 45 187 96/100 262 37.4 150 150 406 150 406 150 5/10 406 91 406 150 406 150 406 150 406 150 406 150 406 197 178 276 5/10 11.8 4.3 94.5 124 33 25/75 95240 46740 11025 46.00x25 4*-2 145 145
DIMENSIONS		Mast height, max	H5	in	269	269	269	269	276	276	276
Ω		Mast tilting, forward – reverse	a – ß	o	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	а	in	4.3	4.3	4.3	4.3	4.3	4.3	4.3
		Length of fork arm	I	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	 262 37.4 11.8 150 406 197 478 276 5/10 5/10 5/10 44.3 94.5 124 33 25 / 75 95240 48500 157190 46740 11025 16.00×25 4* - 2
		Sideshift. \pm at width across fork arms	V1 - V	in	22 / 62	22 / 62	22 / 62	22 / 62	25 / 75	25 / 75	25 / 75
	Weight	With standard battery		lbs	68785	70770	73415	76940	88405	90830	95240
F	Axle load front	Unloaded		lbs	37700	37700	37700	38800	48500	48500	48500
WEIGHT		At rated load		lbs	100750	106925	113320	123460	140655	147270	157190
N N	Axle load rear	Unloaded		lbs	31085	33070	35715	38140	39905	42330	46740
		At rated load		lbs	8380	7935	8380	8600	9700	9920	11025
	Wheels/tires	Type, front – rear			Pneumatio	c / Pneumatic		Pr	neumatic / Pneuma	atic	
WHEELS		Dimensions, front – rear			14.00×24	14.00×24	14.00×24	14.00×24	16.00×25	16.00×25	16.00×25
HH		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 Serve	o – Steering wheel		Hydrau	ulic Servo – Steerin	ig wheel	
	Service brake system	Type – affected wheels				l disc brakes e wheels		Oil coole	d disc brakes – Dr	ive wheels	
BRAKES	Parking brake system	Type – affected wheels				rated disc brakes – wheels		Dry, spring act	tivated disc brakes	s – Drive wheels	
	Hydraulic pressure	Max.		MPa	2393	2611	2901	3191	2828	2973	3191
MISC.	Hydraulic fluid volUme			gal	95	95	95	95	95		95
				5							

330-12

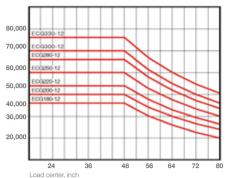
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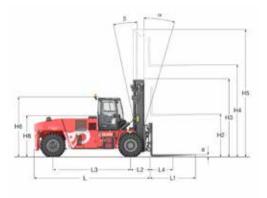
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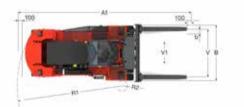
Load capacity in pounds



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

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







POWERTRAIN*

			12	12	12	-12	12	12	12			
	Drive motor, manufacturer - type designation		Bosch	Rexroth EN	NS-series	(Permanent M	lagnet Syn	chronous	Motor)			
	Type of motor					AC						
Motor	Drive motor power, rated continuous (S9) - max	hp (kW)	np (kW) 202 - 452 (151 - 337)									
Mo	Drive motor Torque, rated continuous (S9) - max	ft-lb	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)			3	1 - 67 (23 - 5	0)					
c	Transmission, manufacturer - type designation					BoschRexroth	ı					
Transmission	Driving axle, manufacturer - type			Kess	ler D91 - I	Differential and	d hub redu	ction				
ransn	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 technology				Li-ion -	NMC (LiNiMr	nCoO2)					
	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	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									

ECG180- ECG200- ECG220- ECG250 ECG280- ECG300- ECG330-

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

* All data is correct at time of publication.

ATTACHMENTS





Carriage sideshift / fork positioning

Carriage with kissing forks for steel handling



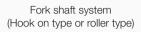


Duplex standard

Duplex free lift









Coil ram



Triplex full free lift



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