



Electric Heavy Forklift

ECG180-330



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 33 tonnes for the metal, forestry, automotive, concrete, energy and container handling sectors.

A complete line up

Our latest electrically powered heavy forklift can lift loads 18 - 33 tonnes and has a choice of modular battery options and charging solutions to choose from. 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.

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 h. are available and are tailored to your individual needs.

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 33 tonnes 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 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.



Improve your eco-efficiency while maintaining the highest levels of productivity and safety.



Our electric portfolio

Kalmar offers an extensive range of electrically powered forklift trucks with lifting capacities from 5-33 tonnes, three different lifting masts and a wide range of specialist attachments: making our electrically powered forklift trucks suitable for a wide variety of material handling tasks.

Battery and Charging Monitoring

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

Kalmar Insight*

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

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.

Charging Post for Li-ion Equipment

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

Reachstackers

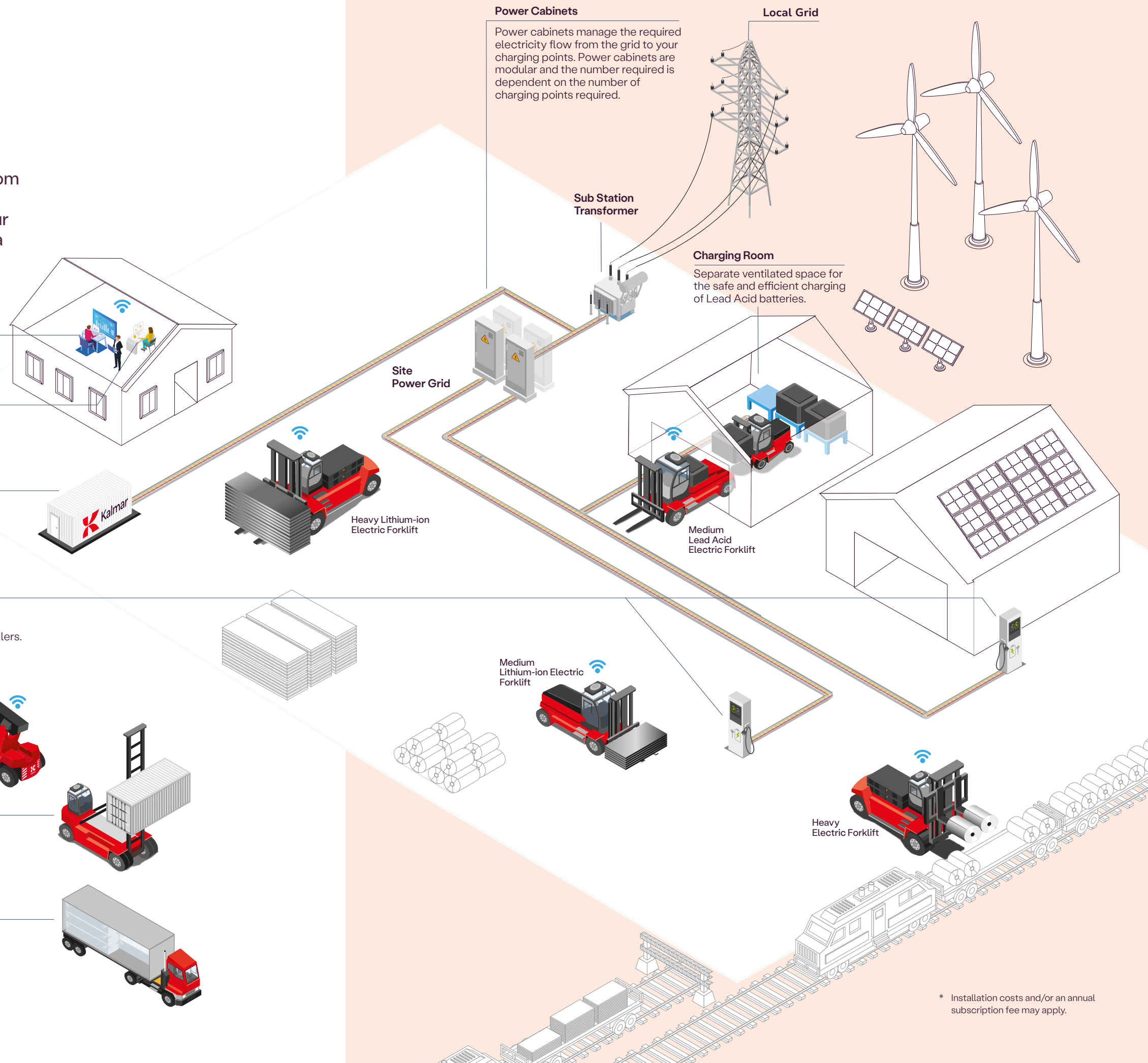
Kalmar offers a choice of electrically powered reachstackers with a wide range of lifting applications, battery solutions and can handle loads up to 45 tonnes.

Empty Container Handler

Kalmar's range of electrically powered empty container handlers can operate for up to a full shift on a single charge, lifting loads up to 11 tonnes and placing them up to 8+1 high with our double stacker.

Terminal Tractors

Kalmar's electrically powered terminal tractor has been designed specifically for distribution centres and container terminals. There is a choice of different battery solutions designed to meet your operational requirements.



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

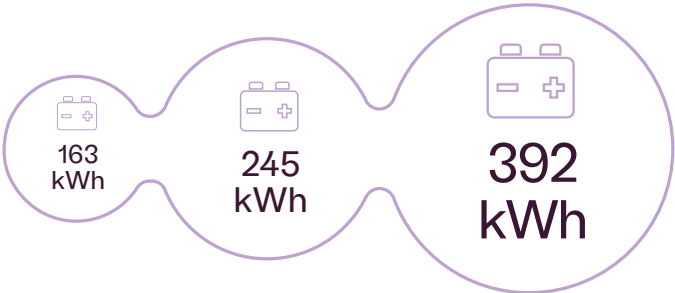
The power is in your hands



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 battery capacities from 50-350 kWh 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.



Three battery sizes to choose from.

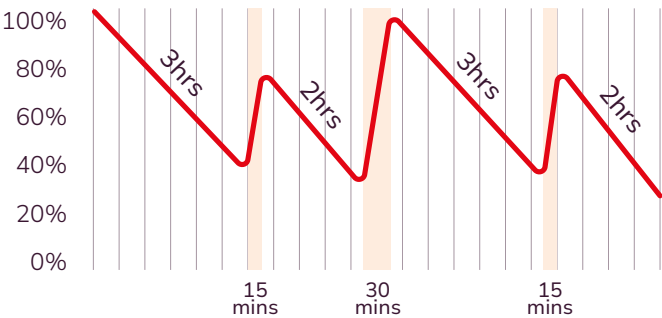
Eco-efficient by nature

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 minimise energy usage while maximising performance. Regenerative power from the braking system returns power to the batteries, further enhancing the overall efficiency of the system.

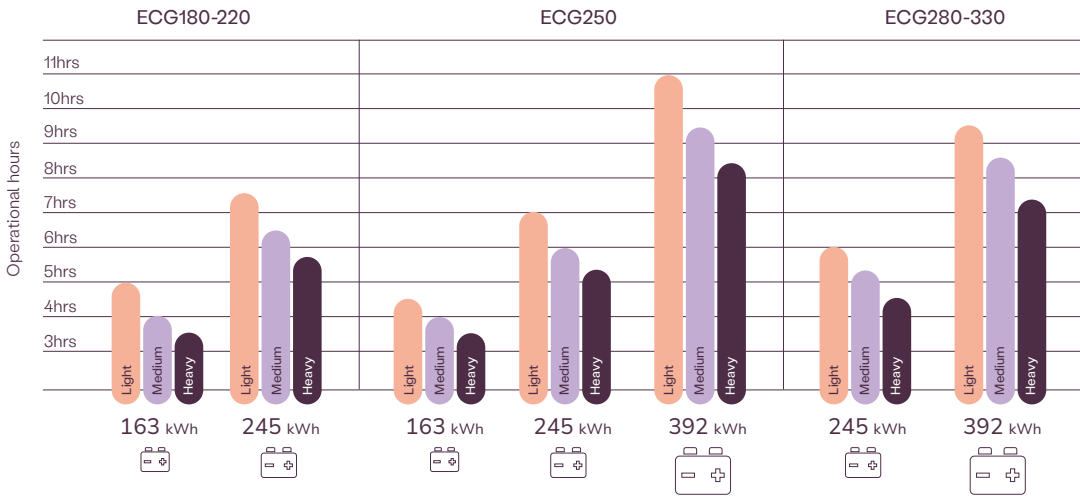
To meet a variety of operational work cycles we offer various combinations of battery sizes and charging capacities, to keep your electric forklift running optimally.

Opportunity charging



Opportunity charge to match work cycles.

Preliminary operational hours



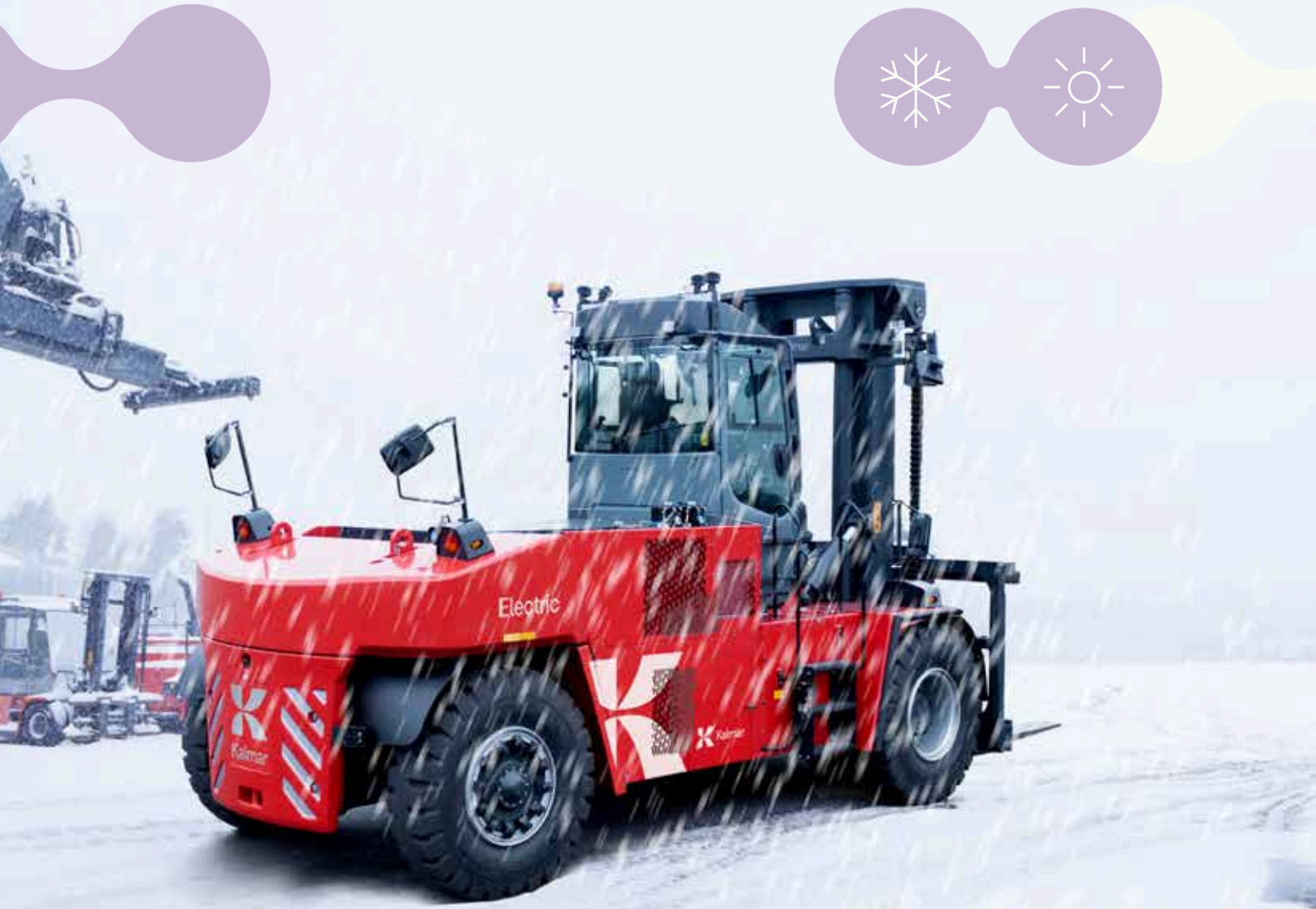
*First life measured as 80% capacity left in the battery.

Productive in extreme weather conditions

Our portfolio of electrically powered reachstackers all come fitted with a Thermal Management System, which allows your equipment to run optimally even in extreme weather temperatures. The system keeps your core battery temperature between 25-30°C for optimal performance even when the temperature outside gets down to -30°C or up to 40°C.

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.

Thermal Management System



Managing your power

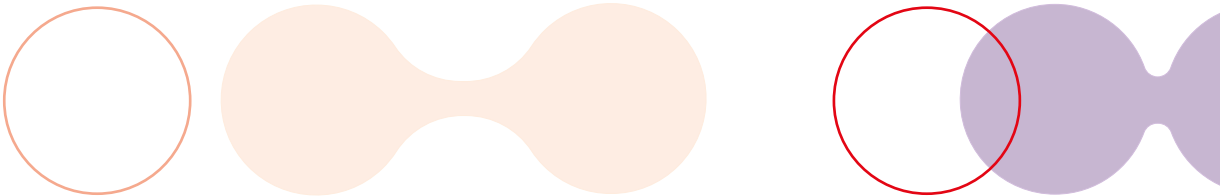
Kalmar's Battery Monitoring System continually manages and monitors the voltage, temperature, coolant and current flow of your battery solution to ensure that it operates optimally over its lifetime. This system also controls the charging of the batteries by redirecting recovered energy back into the 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)
- Current
- Voltage
- Temperature
- Cooling & heating (summer & winter)
- Charging power
- Fast basic charging
- Slower top charging
- Cell status and information.

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.



Safety fitted as standard

All Kalmar equipment is compliant with EN 1175:2020.

At Kalmar, the safety of people working with our machines is always at the top of our minds, which is why meeting global safety standards is important to us. The safety standard EN 1175:2020, which sets the electrical and electronic component standards for industrial trucks, has been updated to improve the safety of these machines while in operation. This update is valid from April 2023. All Kalmar counter balanced machines, including reachstackers, empty container handlers and forklifts have been updated to meet this new standard to ensure that working with a Kalmar machine is as safe as it can be.

For Kalmar, the safety of your drivers and maintenance staff is of critical importance, which is why our machines come with many more safety features fitted as standard than other machines available in the market.

The features listed here come fitted as standard on all Kalmar machines. You can enhance your employees' safety further by fitting your machine with our additional safety options listed on the following pages.



2-point seat belt. Ensures that your driver is safe and secure while operating our equipment, all Kalmar machines are equipped with an adjustable 2-point seat belt system.



3-point Contact System. Makes sure your drivers are safe when entering or exiting our equipment. All machines are fitted with steps and handles to ensure they can always maintain three points of contact with the vehicle, helping to keep them safe and preventing incidental injuries.



Double brake pedals. To avoid driver leg fatigue, every machine is equipped with dual brake pedals which require only heel to toe movements, allowing the driver to move his foot between the accelerator and brake pedals without having to move their leg.



Steps with anti-slip protection. To reduce the risk of your driver slipping or falling on our equipment, all entering and exiting points are fitted with non-slip surfaces giving them extra grip, so your drivers stay safe.



Control System. All our equipment is fitted with an electronic Control System for monitoring the machine's different functions while in operation, helping to keep your driver fully informed at all times with up-to-date Operating, Event Controlled and Error Code information.



Operating information. Our equipment's Control System provides several operating information menus, which give your operator and maintenance personnel a great insight into the on-going performance of the machine, allowing them to keep it running optimally.



Event controlled information. Provided through the Overload Protection System to warn the driver through the equipment's Control System if their load exceeds the specified safety limits.



Error code information. Should there be any issue with your equipment while in operation, the electronic control system will immediately alert your driver with the appropriate error code, so they know exactly what is going on and can take appropriate action.



Display. Cabins are fitted with a large easy to read display which keeps your drivers fully aware of the machine's on-going performance and any maintenance actions that need to be taken.



Control Breaker System for load handling. All of our equipment is fitted with a Control Breaker System, which automatically shuts down the load handling system should a fault occur, until the fault has been corrected. Keeping your driver, equipment and load safe.



Operator Presence Detection System. Maintains the highest levels of safety for both the driver and pedestrians, as all our equipment is fitted with an alarm or visual indicator that comes on automatically if:

- The driver does not fasten their seat belt while in operation.
- The driver leaves their seat without engaging the parking brake.

In addition, if the driver leaves their seat while the machine is operational, the transmission is automatically shifted to neutral and load-handling functions are disabled.



External reverse light. For the safety of others, all our equipment is equipped with external reversing lights that help the driver keep everyone informed that they are moving backwards.



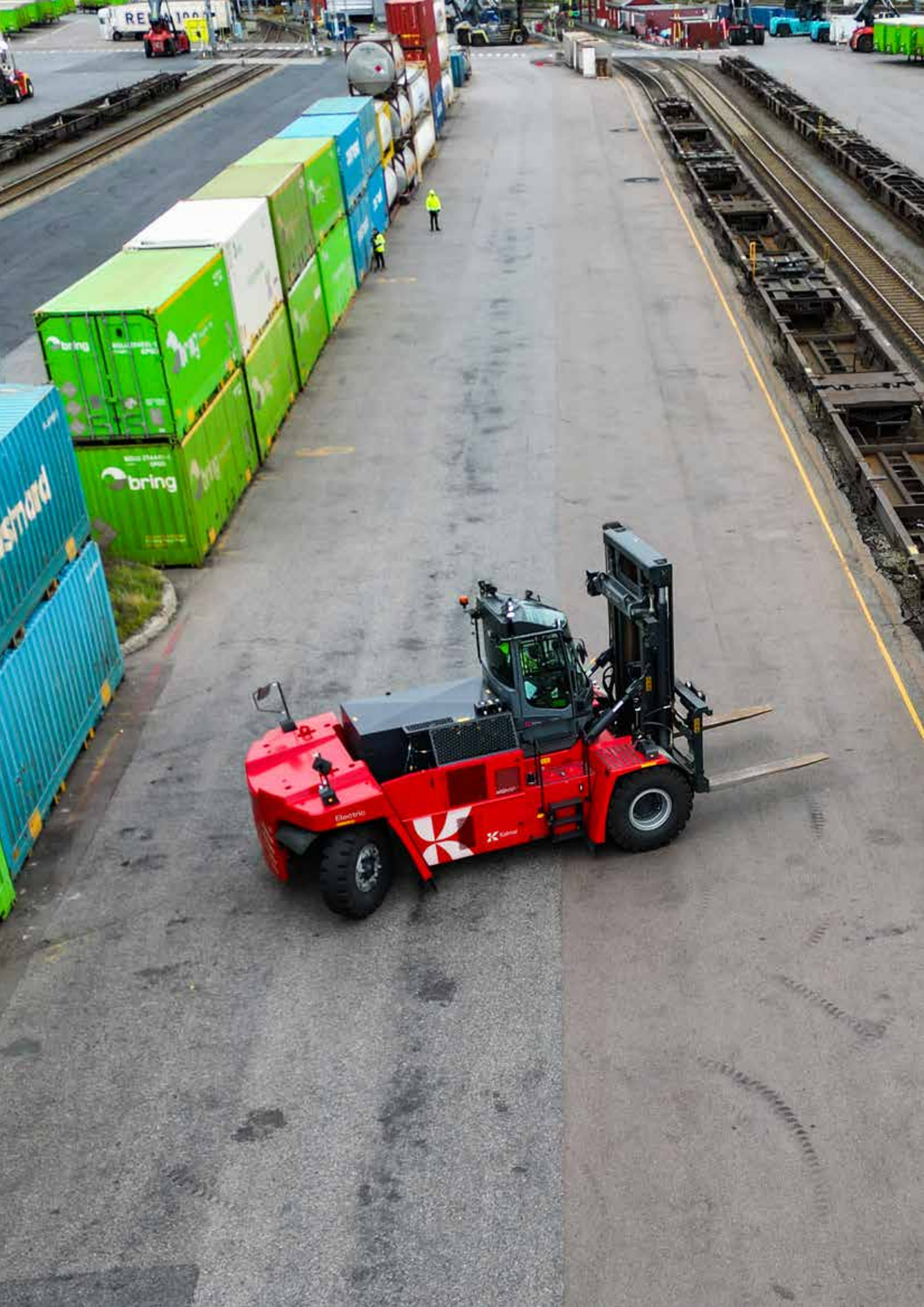
LED lights. These come fitted as standard on all our equipment, providing better visibility when working in reduced light than halogen lights.



Protection against falling objects. Cabin roof windows on all our equipment are fitted with high strength materials which can withstand heavy blows, helping to protect your drivers from falling objects.



Good visibility. Kalmar cabins provide your drivers with excellent visibility, forwards, upwards, sideways and behind them to help them stay safe while in operation.



Choose your own upgrade options

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



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 any 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.



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 they stay out of harm's way at all times.



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



Fire Suppression System. To protect your operator and machine from fire you can fit a Fire Suppression System* to your machine. The system utilises multiple spray nozzles that release a high pressure water mist where the fire has been detected from a re-chargeable water tank. This can be activated manually or automatically through an in-cabin temperature sensor.

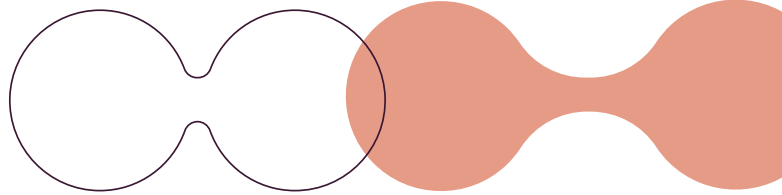
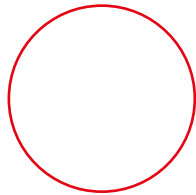


Additional lighting. Extra lighting, particularly if you operate your machine at night, as you can bring greater operational visibility and safety for personnel working on the site. You can choose additional LED working lamps on specific positions.

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



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





This forklift is a dream to drive, with great visibility and easy handling.

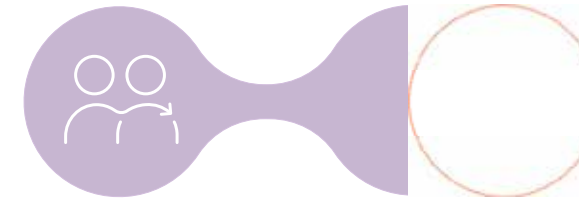


Designed for the driver

Ergonomically designed

Kalmar Electric Heavy Forklifts come fitted with our ergonomically designed EGO cabin. With slim line b-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.



More comfortable.

With a choice of comfortable driver seats, a fault safe pedal system 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.



Easy to operate.

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



Extra smart.

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

What do you need to lift?

Choose between a wide range of lifting masts, carriages, forks and attachments. We offer complete solutions whereby we assemble the attachment in the factory and integrate it with the forklift's other functions.

Forestry industries

With our medium electric forklift you will be able to handle most loads indoors or out, including lumber packages, pulp, paper, board and waste. Moving raw materials off trucks or train trays, to moving wood around during the milling process or lifting and moving final goods ready for dispatch.



Metal industry

Our heavy diesel powered forklifts can lift, stack and transport metal slabs, blooms and billets or plates, coils, bars and pipes, which is made even easier and safer when you use speciality attachments including magnets, clamps, grippers, coil rams, forks or slings fitted to the lifting equipment. Also raw material supplies and recycling can be handled.



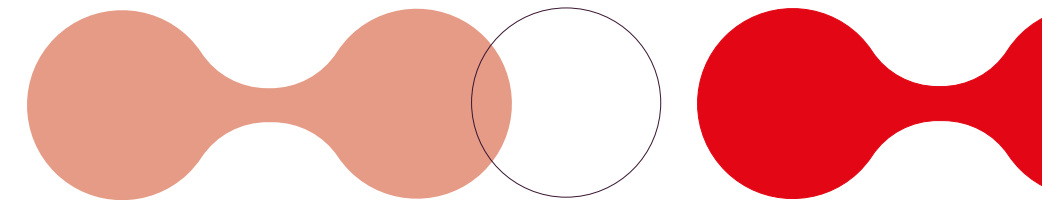
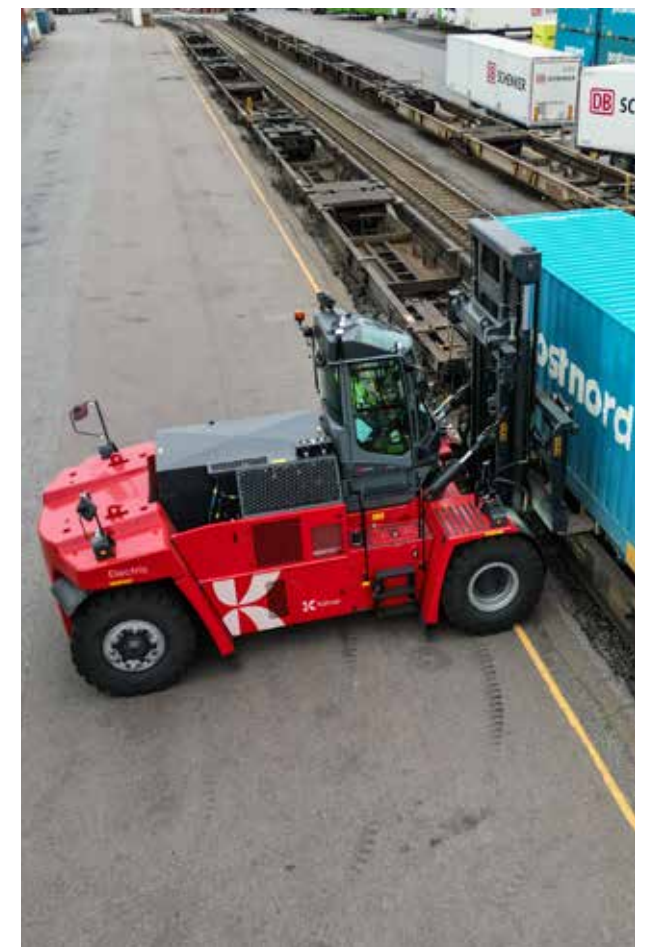
Concrete, energy and heavy industry

Flat, round or bulky concrete sections, wave-breakers, bricks and rocks can be lifted with ease, as can hardware for the energy sector: like supplies for oil & gas offshore sites, or biomass and nuclear plants. Heavy loads for the wind turbines and their sub contractors; producing foundations, mono-piles, tower sections, nacelles, drive units and blades can also be lifted and moved safely and efficiently.



Logistics and stevedoring

Whether you're moving sensitive goods like fresh fruit and vegetables, pallets filled with goods ready for dispatch or moving containers this electric forklift can handle your loads efficiently and safely both indoors and out as it produces no carbon emissions.





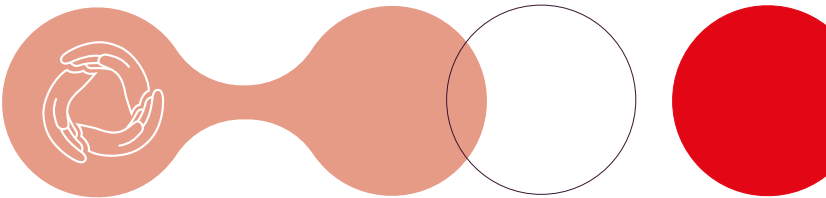
Keep moving with Kalmar Services

To keep your business moving Kalmar Services offers a range of services that can help you keep your equipment moving optimally.

Kalmar Care

Care that keeps your business moving.
With Kalmar Care you get a flexible service that's built around your business. Including, the experience and knowledge of Kalmar's dedicated staff, coupled with transparency and increased predictability of costs.

Kalmar Care is available in three different service models: our two customisable contracts – Essential Care and Complete Care – and our flexible solution On Demand Care.



Service models:



Essential Care
A maintenance solution to keep your equipment in an optimal condition.



Complete Care
A complete service solution providing piece of mind and maximum equipment uptime.

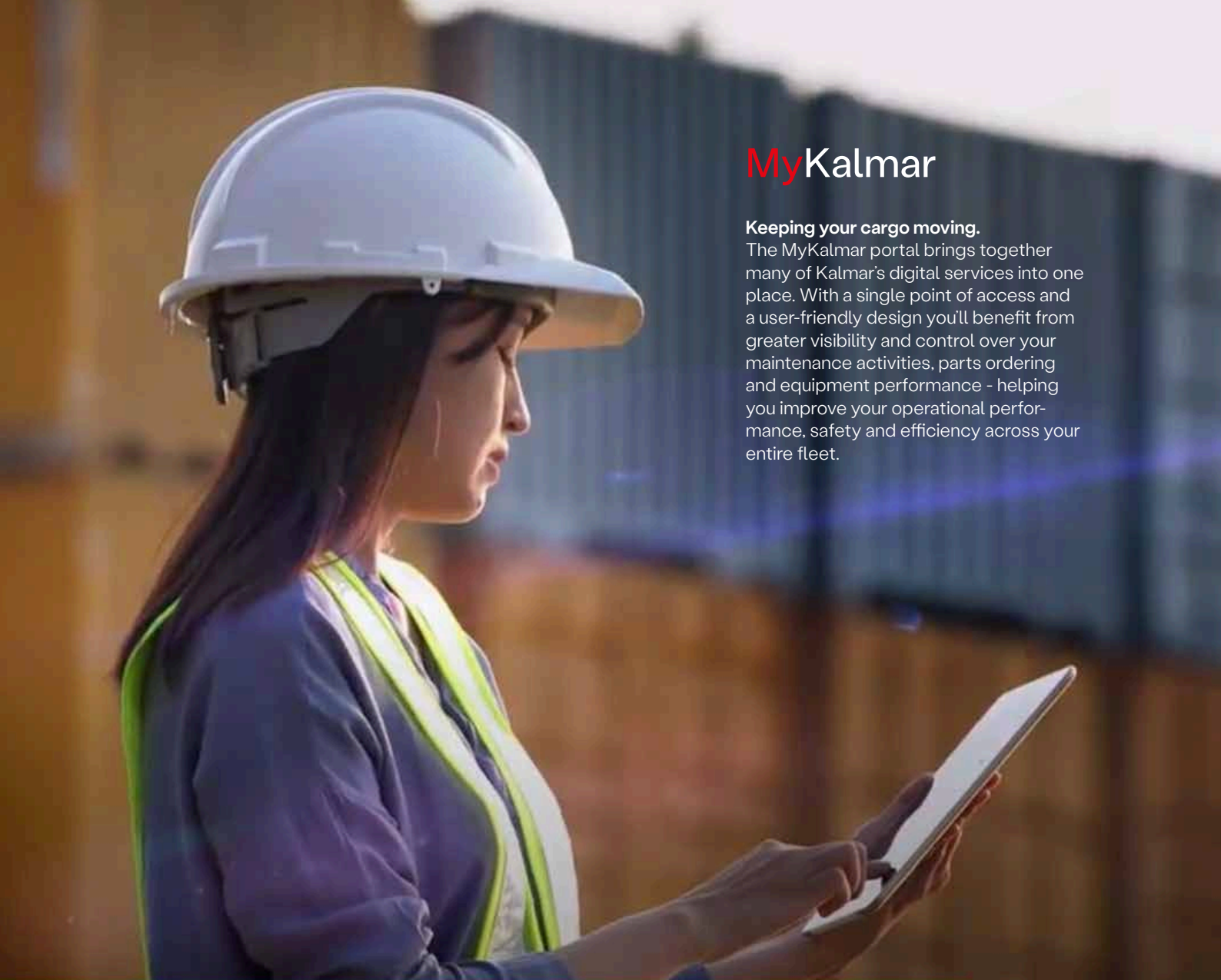


On Demand Care
Top-of-the-line service whenever you need it.

Maintenance Planning	●	●
Preventive Maintenance	●	●
Predictive Maintenance		●
Corrective Maintenance		●
Preventive Spare Parts	●	●
Corrective Spare Parts		●
Lubricants	●	●
MyKalmar	●	●
Kalmar Insight	●	●
Tyre Maintenance		●
Battery Maintenance		●

● Included ● Optional

Top-of-the-line service
whenever you need it



MyKalmar

Keeping your cargo moving.
The MyKalmar portal brings together many of Kalmar's digital services into one place. With a single point of access and a user-friendly design you'll benefit from greater visibility and control over your maintenance activities, parts ordering and equipment performance - helping you improve your operational performance, safety and efficiency across your entire fleet.

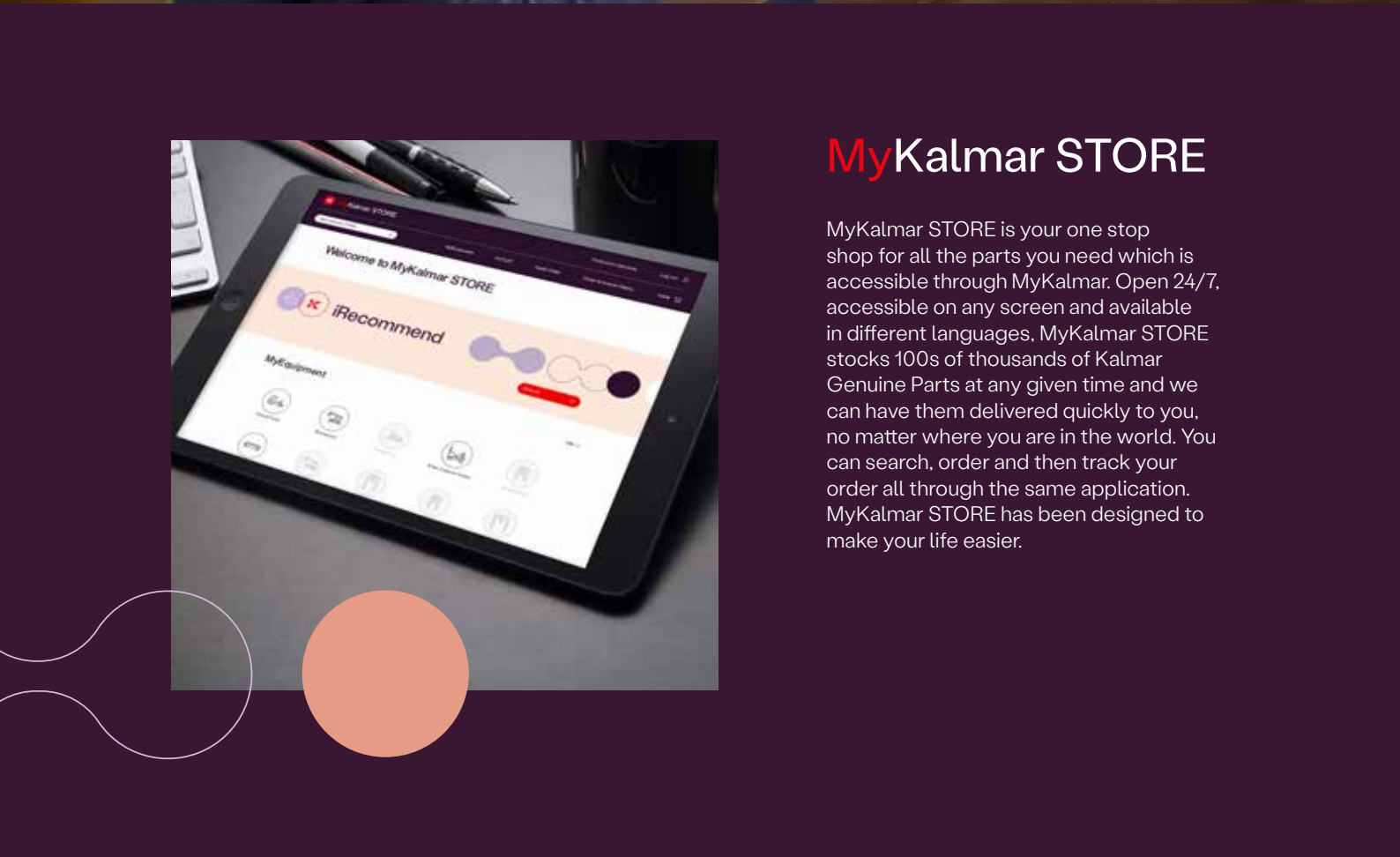
Kalmar Insight

Optimise your operations with Insight.
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. Review your entire fleet activities, schedule maintenance activities and order the required parts

automatically. All enabling you to take action 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, it can also be retrofitted into existing Kalmar equipment or those built by other manufacturers.



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



MyKalmar STORE

MyKalmar STORE is your one stop shop for all the parts you need which is accessible through MyKalmar. Open 24/7, accessible on any screen and available in different languages, MyKalmar STORE stocks 100s of thousands of Kalmar Genuine Parts at any given time and we can have them delivered quickly to you, no matter where you are in the world. You can search, order and then track your order all through the same application. MyKalmar STORE has been designed to make your life easier.

Kalmar Training

Enhance your skills.
To get the most out of your new machine our training centre offers a range of courses for both your technicians and operators. Operators can be taught how to drive the machine for optimum performance and minimum waste, and to learn what needs to be checked daily for optimal safety. Technicians can be educated with the knowledge they need to keep your new equipment in top condition in a safe way. Courses are a mix of theory and hands-on experience.



Standard*

ECG180-330 (18-33 tonnes)

Norms, standards and regulations according to:

- Machinery Directive 2006/42/EC
- Safety Industrial Trucks Standard ISO 3691-1 + EN 16307-1
- Safety Low & High Lift Trucks Standard ANSI / ITSDF B56.1
- Stability Masted Forklift Trucks Standard ISO 22915-1, -2
- Electrics / Electronics Standard EN 1175
- Electromagnetic Compatibility Directive 2014/30/EC
- Electromagnetic Compatibility Standard EN 12895
- Noise Emission Directive 2000/14/EC and 2005/88/EC
- Noise Emission Standard EN 12053
- CE-marking (EU/EEA)
- ANSI / ITSDF-marking Forklift Trucks (USA/CAN)
- AS-marking (Australia)
- UKCA-marking (UK)
- Supply of Machinery (Safety) Regulations 2008 (UK)

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
- Full access to the entire powertrain with tilting cabin
- Very good visibility in forward, up, sideways and rearwards
- Dual access stairways on left / right sides (steps/handles)
- Low cabin mounting for easy access on both sides
- Lifting eyes and anchor points (front & rear)
- Towing pin in rear counter weight (Short model)

Body

- Strong and protective steel mudguards (front / rear)
- Long bottom step between the mudguards (anti-slip) on both sides
- Short access steps (3x) up to the cabin (anti-slip) on LHS
- Short anti-slip access steps (2x on left side, 3x on right side)
- Big rear view mirrors on front mudguards (2x) + 2x in the mast
- Welded lamp brackets bolted on front mudguards (2x)
- Basic noise insulation kit of the forklift

Steer Axle (rear)

- Kalmar steer axle mounted dual pivot bearings
- Pendulum stop at steeringaxle (280-330)
- 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 planetary axle with differential drive
- Maintenance-free oil-cooled Wet Disc Brakes (WDB)
- Single parking brake, spring loaded & hydraulic release
- High pressure filter (10 my) for the brakes
- Drive Axle ECG180-250, Width 3050mm
- Drive Axle ECG280-330, Width 3430mm

Wheels (Tyres & Rims)

- ECG180-250, Tyres 14.00 x 24" (Rim 10.00 x 24")
- ECG280-330, Tyres 16.00 x 25" (Rim 11.25 x 25" / 2.0)

Powertrain

- BoschRexroth traction motor, S1 continuous power, at rated speed 115kW
- 1-speed mechanical drive transmission with water cooling
- BoschRexroth transmission
- Water cooling and heating for battery
- Re-generative brake system / energy back to battery
- Electric motors and inverters with active water cooling
- Pump motor hydraulics, S1 continuous power, at rated speed 130kW
- Auxiliary motor 22 kW continous
- Electric motors are protected inside the chassis

Power Electrics (670V)

- Electric system voltage 670V (Low 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
- Electric cabinet mounted on chassis with main parts

Battery (Lithium-ion)

- Lithium-ion integral battery unit, with TMS/BMS
- High capacity NMC-technology
- Maintenance-free battery

- 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
- Charging power: up to 350 kW
- High-power Lithium-ion chargers with CanBus

Thermal Management System (Lithium-ion)

- Battery Manangement System (BMS) with CanBus
- Smart 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 battery and cabin
- Power limitation functions to optimize consumption
- Limp home function at low SOC% (drive speed 8 km/h)

Load-Sensing Hydraulics

- Load-sensing variable piston pumps (2x)
- Power-on-demand with high lift & lowering 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
- Pressure filter for hydraulics / brakes (10 µm)
- Hydraulic tank (360 lit), cooler, breath filter & level glass
- Mast tilt angles: FW +5 / BW -10 deg (15 deg)
- Oil heater, 1 kW, 400V, 3-phase (5 conductor, 32A)
- Fixed pump for brake pressure & oil cooling
- Servo filter for the work hydraulics (10 µm)
- Hydraulic oil cooler unit
- Hydraulic tank 360l

Lift Mast

- Large selection of mast types and lifting heights.
- Duplex Standard; 2-stage mast, with free-visibility
- Strong, durable mast design (pair of cylinders/chains)
- Heavy-duty mast profiles and strong cross members
- Mast with strong mast wheels, bearings & guide rollers
- Large shafts-bearing for mast, strong tilt fixation
- Mast tilt angles +5 / -10 deg (FW / BW)

Fork Carriage

- Carriage with strong wheels, bearings & guide rollers
- Widths: 3000 mm (180-250) / 3400 mm (280-330)

Forks

- Fork mountings of roller-type
- Cross sections: (180-250), 250 x 110 mm / (280-330), 300 x 110 mm
- Tapering: standard 0-350 mm full thickness / 350-tip with taper

Electrical System 24V

- Electric cabinet on chassis, battery box, batteries 24V & main power switch
- Electric cabinet, mounted behind driver
- 2 LED head lights on front fenders (one beam)
- 2 LED working lights on mast (first cross member)
- 2 LED working lights rear on cabin (reverse)
- 4 blinker LED-lights (front - rear / left - right)
- 2 tail / 2 brake LED-lights rear on counter weight
- 2 position LED-lights on each side of the truck
- 2 flashing LED-brake lights (when reversing)

Cabin EGO

Structure

- Spacious, modern cabin with great ergonomy level
- Strong profiles, pillars and cross members
- FOPS certified drivers cabin (Falling Object Protection Safety)
- ECG180-330, Tilttable cabin with full access to powertrain & hydraulics
- Large window sections with great visibility in all directions
- Large access doors with air-damper & key-lock
- Doors: sliding windows + access handles

Comfort

- Drivers seat, mech. spring suspension, high back
- Comfort seat, adjustable, sensor & 2-point belt
- Electric adjustable work console (up-down/fw-rev)
- Work console; lift levers, controls, lamp buttons etc
- Inside rear view mirror (right side)
- Interior lights with fade away function
- Fully adjustable steering wheel incl tilt function
- Power steering wheel with steer knob

Controls

- Electric levers for mast, tilt & fork carriage functions
- Electric accelerator pedal (hanging)
- Double brake pedals (L + R)
- Multi-function lever LHS (parking brake/travel direction switch)
- Combined horn and blinker lever
- Warning - hand brake (on/off) leaving seat

Climate

- ECC, electronic climate control
- Tinted windows including laminated front window
- Powerful cab heater, power 6 kW (20.500 Btu)
- Strong AC cooling unit, power 14.0 kW (47.700 Btu)
- High-capacity ventilation unit - max air flow 483 m3/h
- Multiple individual blowers (8x upwards / 2x downwards)
- Fresh air and recirculation filter (replaceable)
- Double wipers / washers on front window (larger area)
- Single wipers / washers on roof and rear windows
- Interval wiper functions on front, roof and rear windows

Information Systems

- Kalmar CanBus controls with 4.3" monitor
- Danfoss controls DM430E in RAM mount
- Menu controller with toggle wheel & push buttons
- Programmable settings and full monitoring of all main systems

Operator menu:

- System voltage
- Actual gear
- Travelling speed (km/h or m/h)
- Clock and date
- Operating time (hours)
- Service time indicator (hours)
- Status of heating system & AC system
- Estimated time before empty battery (hour/min)
- Service indicator
- Trip computer / statistics

Various warning lights & signals:

- Charging battery
- Low brake pressure
- Failure indicator
- Hydraulic and brake oil temperature
- Low washer fluid level
- Low coolant level battery
- Low coolant level electrical components
- High coolant temp battery
- High coolant temp electric components
- Low power battery volt level
- Low/high battery cell temp
- Low/high battery cell volt level/unbalanced power battery

Fleet Management

- Equipped with telemetric hardware for Kalmar Insight

Colour

- Cabin: Iron-Grey RAL 7011
- Chassis, tanks & mudguards: Red RAL 3000
- Boom, attachment & axles: Black RAL 7021
- Rims: Iron-Grey RAL 7011

Documentation and Decals

- Load chart inside cabin
- Machine data sign on chassis incl. load chart
- Warning, tyre pressure & oil pressure stickers
- Information & levers/joystick stickers
- Fuse diagram
- Instruction manual
- Maintenance manual, digitally
- Spare parts catalogue, digitally

Warranty

- Kalmar standard warranty: 12 months / 2.000 hours

Options*

ECG180-330 (18-33 tonnes)

Chassis

- Models with standard and short wheelbases
- Anti-slip strips: mudguards, tanks & lamp brackets
- Extra mud flaps (front and rear)
- Steel grid protections: fender, mast & rear

Wheels (Tyres and Rims)

- Spare wheels, tyres and rims of various brands
- Diagonal and radial tyres of well known brands
- Diagonals Continental CM+
- Radials: Continental RT20 and Michelin XZM
- Other brands up on request

Battery (Lithium-ion)

- 163 kWh battery (nominal capacity)
- 245 kWh battery (nominal capacity)
- 392 kWh battery (nominal capacity)

Hydraulics

- Extra hydraulic function including hoses (per function)
- Push-button hydraulic function via magnet valve
- Quick release couplings 'aerogrip' 1/2" (per function)
- Individual fork positioning including 5th hydraulic function
- Hydraulic cylinder accumulator for lifting "standard"
- Hydraulic cylinder accumulator for lifting "auto on/off"
- Protection against opening arms when clamped load
- Other Tilt angles up on request
- Extra functions for attachments (paper, steel, precast)

Lifting Mast

- Duplex Standard (no FL): lift heights 3.00 - 10.00 m
- Duplex Freelift (full FL): lift heights 3.00 - 7.00 m
- Triplex Freelift (full FL): lift heights 4.50 - 7.00 m
- Simplex (no FL): lift heights 2.00 - 4.00 m
- Other lift heights / closed heights upon request

Fork Carriage

- ECG180-250: Sideshift/fork positioning: width 3.20 / 3.50 / 3.80 / 4.00 m
- ECG280-330: Sideshift/fork positioning: width 3.00 / 4.05 / 4.20 m
- ECG180-250: Low model of SS/FP-carriage: width 3.00 m
- ECG180-330: Sideshift/fork position + center levelling: width 3.00 - 4.00 m
- Attachments: carriage sides, chain brackets & hoses
- Attachment of various brands for factory integration
- Other carriage width upon request

Forks

- Large selection of fork dimensions, tapering and designs
- See fork dimensions under Specifications
- Length: 2400 up to 3000 mm in steps (special)
- Other cross sections upon request
- Tapering: various optional tapering / short or full taper
- Fork Shaft System; hook-on type / forks, coil ram or attachment
- Fork Shaft System; pin-type / forks, coil ram or attachment
- Kissing forks with chamfer inside/outside (integral roller-type)
- Kissing forks with chamfer inside/outside (FSS hook-on type)
- Hydraulic levelling fork (up/down) on left fork or / and right fork

Attachment

- Various attachments available:
 - Inverted forks
 - Coil ram
 - Rotator
 - Load stabilizer
 - Steel magnet
 - Spreader
 - Mounting of attachments
 - Other attachments up on request

Electrical System (24V)

- Tuner FM-AM, RDS, MP3, USB, Bluetooth, Stream
- Tuner FM-AM, RDS, MP3, USB, Bluetooth, Stream / DAB
- Power sockets: 2x24V and 2x12V (in door columns)
- Power sockets: 2x24V / 1x12V / 2xUSB 5V
- Electric air pressure horn
- Reverse alarm (beeping or white noise - multi frequency)

- Protection against chain slack (electronics)
- Mast with automatic vertical function (auto-tilt)
- 1 rotating warning LED-beacon
- Buzzer when reversing (reverse alarm)

Lamps

- 2 extra LED working lights - in mast (FW)
- 2 extra LED working lights - rear on cabin (FW)
- 4 extra LED working lights - rear on cabin (mix)
- 6 extra LED working lights - rear on cabin (mix)
- 2 extra LED working lights - front on cabin roof
- 1 extra LED working lights - between tilt cylinder
- 2 high/low beam Halogen working lights (repl LED)
- 1 LED rotating warning beacon (on adjustable pole LHS)
- Blue safety light, rearward or forward
- Red safety light, rearward or forward
- Red safety zone light, Left and Right direction
- Rotating beacon LED, activated via reverse gear
- Other combination up on request

Safety functions

- Overload indication for lift/tilt incl. speed restriction
- Speed limitation; default 15 km/h (set by technician)
- Speed limitation at specified load (set by technician)
- Speed limitation at specified lift height (set by techn.)
- Speed restriction set by customer in display; default 15 km/hv
- Tyre pressure monitoring system (TPMS / Bluetooth)
- Alcolock Draeger in cabin

Cabin EGO

Structure

- Globetrotter cabin +200 mm higher, roof 12 mm (repl 6 mm)
- Elevated cabin 300 mm
- Rotatable Driver Seat, electric 180 deg (to the left)
- Steel grid protection for front window
- Steel grid protection for roof window
- Door opening holder (left side)
- Flat front window with steel profiles, tinted and laminated
- Roof window 12 mm (repl standard 6 mm)
- Electric cabin tilt pump (up/down)
- Electric heated mirrors, front fender/standard pos
- External cabin reverse mirrors (2x)
- External cabin reverse mirrors (2x) with heating
- Electric heated + adjustable mirrors, front mudguards

Comfort

- Air cushioned driver seat with horizontal suspension
- 3-point seat belt
- Extended seat backrest
- Headrest for driver's seat
- Armrest adjustable left side
- Seat heating
- Seat cover in vinyl
- Leather reinforced seat, high backrest, 3-point belt and heating
- Grammer Actimo XL, air cushion, heating, high back, 2-point belt
- BE-GE 3100, air cushion, heating, airvent, high back, 2-point belt, leather reinforced seat
- Isringhausen 6830KA/880, air cushion, heating, high back, 2-point belt
- Extra trainer seat incl. 2-point belt
- Bracket for terminal and monitor (RHS)

Controls

- Travel direction button on 1st lift lever (F-N-R)
- Electronic joystick (EGO)
- Electronic lever steering (without feedback)
- Electronic mini-wheel steering (no feedback)

Indicator lamps:

- Head beam
 - Direction indication (blinkers)
 - Parking brake

Climate

- Sun visors front, roof and rear windows

Additional Equipment

- Enhanced Safety Package
 - Speed limitation default 15 km/h or free (set by technician)
 - Blue safety light backwards via back alarm
 - Rear warning radar (for reverse camera/monitor in cabin)
 - Seat belt interlock (active before driving - seatbelt on)
- Semi-automatic fire suppression system (DAFO Forrex)
- Fire extinguisher 6 kg, powder (LHS / behind foot steps)
- Tool kit

- Central greasing system (14-18-24 grease points)
- Tilt indicator of mechanical type
- Tilt indicator of electronic type (in display)
- Electronic weight indicator in cabin control monitor
- Heat protection kit (incl hoses)
- Heat protection mechanical kit
- Wheelnut protection
- Additional equipment for roadtraffic (LGF-sign)

Camera safety

- Modular full HD solutions (1920x1080p)
- Extra front mast camera - to cab monitor
- Extra front carriage camera - to cab monitor
- Radar warning sensors rear (2x) to cab monitor
- Monitor 7in Quad, max 4 connections (repl Dual)
- Monitor 10in Quad, max 4 connections (repl Dual)
- DVR recorder, up to 4 channels, with SD-card (128 GB)
- 360 birdview camera solution (not with sliding cabin)

Information Systems

- VDI - Vehicle Data Interface

Fleet Management (Kalmar Insight)

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

Colour

- Other RAL colour than standard, chassis
- Special and multiple colours, chassis
- Other colour than standard, striping foil
- Reinforced anti-corrosion protection

Documentation & Decals

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

Training

- Training packages (driver, service, maintenance, software)
- Contact Kalmar Training Centre for more information

Warranty

- Additional warranty packages available:
 - Gold (complete forklift): max 5 yr/10.000h
 - Silver (drive line): max 8 yr/16.000h
 - Bronze (structural parts): max 10 yr/20.000h
- Contact Kalmar for more information

* Subject to change depending on brand and supplier.

Specifications

MODELS LIFTING CAPACITY				ECG180-12	ECG200-12	ECG220-12	ECG250-12	ECG280-12	ECG300-12	ECG330-12	
		Rated capacity		kg	18000	20000	22000	25000	28000	30000	33000
DIMENSIONS		Load centre distance	L4	mm	1200	1200	1200	1200	1200	1200	1200
		Truck length (to fork face front)	L	mm	6090	6090	6090	6340	6925	6925	6925
		Distance, centre drive axle - fork face front	L2	mm	1070	1070	1070	1070	1140	1140	1140
		Wheelbase	L3	mm	4000	4000	4000	4250	4650	4650	4650
		Truck width (over tires)	B	mm	3050	3050	3050	3050	3430	3430	3430
		Roof height cabin (basic forklift)	H6	mm	3290	3290	3290	3290	3450	3450	3450
		Seat height EGO	H8	mm	2150	2150	2150	2150	2300	2300	2300
		Height / width, max (with tilted cabin)	T1 / T2	mm	3800 / 3700	3800 / 3700	3800 / 3700	3800 / 3700	3800 / 3800	3800 / 3800	3800 / 3800
		Track (c-c), front / rear	S1 / S2	mm	2200 / 2200	2200 / 2200	2200 / 2200	2200 / 2200	2440 / 2540	2440 / 2540	2440 / 2540
		Turning radius, outer / inner	R1 / R2	mm	5600 / 425	5600 / 425	5600 / 425	5875 / 550	6650 / 950	6650 / 950	6650 / 950
		Aisle width min, at 90° driving with forks	A1	mm	9270	9270	9270	9550	10325	10325	10325
		Ground clearance, min - max		mm	300	300	300	300	300	300	300
LIFTING EQUIPMENT	Duplex Standard¹	Lifting height	H4	mm	5000	5000	5000	5000	5000	5000	5000
		Mast height, min	H3	mm	4320	4320	4320	4320	4520	4520	4520
		Mast height, max	H5	mm	6820	6820	6820	6820	7020	7020	7020
		Mast tilt, forward – backward	α – β	°	5/10	5/10	5/10	5/10	5/10	5/10	5/10
	Forks	Width x Thickness	b x a	mm	250 x 110	250 x 110	250 x 110	250 x 110	300 x 110	300 x 110	300 x 110
		Length	l	mm	2400	2400	2400	2400	2400	2400	2400
		Forks position, outside width, min-max.	V	mm	2700 / 800	2700 / 800	2700 / 800	2700 / 800	3150 / 850	3150 / 850	3150 / 850
		Forks sideshift, max stroke at opening (c-c)	V1 – V	mm	557 / 1585	557 / 1585	557 / 1585	557 / 1585	557 / 1585	625 / 1900	625 / 1900
	Fork carriage width²	b3		3000	3000	3000	3000	3400	3400	3400	
WEIGHT	Service weight³	Integral battery (Li-Ion)		kg	28 500	29 800	31 200	32 900	38 300	39 500	41 500
	Axle load front	Unloaded		kg	15 000	15 000	15 000	15 500	20 500	20 500	20 500
		At rated load		kg	43 200	46 300	49 500	53 900	62 300	65 300	69 800
	Axle load rear	Unloaded		kg	13 500	14 800	16 200	17 400	17 800	19 000	21 000
		At rated load		kg	3 300	3 500	3 700	4 000	4 000	4 200	4 700
WHEELS	Wheels⁴	Number of wheels, front – rear (x = driven)			4 – 2	4 – 2	4 – 2	4 – 2	4 – 2	4 – 2	4 – 2
	Tyres	Pneumatics, type / pressure (front - rear)		Mpa	Diagonal / 1.0	Diagonal / 1.0	Diagonal / 1.0	Diagonal / 1.0	Diagonal / 1.0	Diagonal / 1.0	Diagonal / 1.0
		Dimensions, front – rear		tum	14.00×24" - 14.00×24"	14.00×24" - 14.00×24"	14.00×24" - 14.00×24"	14.00×24" - 14.00×24"	16.00×25" - 16.00×25"	16.00×25" - 16.00×25"	16.00×25" - 16.00×25"
	Rims	Dimensions, front – rear		tum	10.00x24" - 10.00x24"	10.00x24" - 10.00x24"	10.00x24" - 10.00x24"	10.00x24" - 10.00x24"	11.25x25"/2.0 - 11.25x25"/2.0	11.25x25"/2.0 - 11.25x25"/2.0	11.25x25"/2.0 - 11.25x25"/2.0
AXLES	Steer axle	Manufacturer, type - designation			Kalmar steer axle / power steering / double acting single cylinder	Kalmar steer axle / power steering / double acting single cylinder	Kalmar steer axle / power steering / double acting single cylinder	Kalmar steer axle / power steering / double acting single cylinder	Kalmar steer axle / power steering / double acting single cylinder	Kalmar steer axle / power steering / double acting single cylinder	Kalmar steer axle / power steering / double acting single cylinder
	Drive axle	Manufacturer, type - designation			Kessler D91 Differential and hub reduction	Kessler D91 Differential and hub reduction	Kessler D91 Differential and hub reduction	Kessler D91 Differential and hub reduction	Kessler D91 Differential and hub reduction	Kessler D91 Differential and hub reduction	Kessler D91 Differential and hub reduction
	Service brakes	Type – affected wheels			Oil cooled wet disc brakes (WDB) / drive wheels	Oil cooled wet disc brakes (WDB) / drive wheels	Oil cooled wet disc brakes (WDB) / drive wheels	Oil cooled wet disc brakes (WDB) / drive wheels	Oil cooled wet disc brakes (WDB) / drive wheels	Oil cooled wet disc brakes (WDB) / drive wheels	Oil cooled wet disc brakes (WDB) / drive wheels
	Parking brake	Type – affected wheels			Dry, spring activated disc brakes – Drive wheels	Dry, spring activated disc brakes – Drive wheels	Dry, spring activated disc brakes – Drive wheels	Dry, spring activated disc brakes – Drive wheels	Dry, spring activated disc brakes – Drive wheels	Dry, spring activated disc brakes – Drive wheels	Dry, spring activated disc brakes – Drive wheels
	Hydraulic tank	Oil volume		Lt	360	360	360	360	360	360	360

- Notes:
- Technical data: mast Duplex Standard with 5000 mm lift height.
 - Technical data: fork carriage with integral sideshift / fork position (SSFP).
 - Service weights / axle loading: values with standard configuration.
 - Wheels: other combinations of wheels are available (tyre and rim).

Powertrain¹

MODELS	Models		ECG 180-12	ECG 200-12	ECG 220-12	ECG 250-12	ECG 280-12	ECG 300-12	ECG 330-12
	Wheelbase (L3)	mm	4000	4000	4000	4250	4750	4750	4750
MOTOR	Manufacturer - motor / inverter brand		Bosch-Rexroth / lithium-ion range / CanBus						
	Motor - model / type		AC / Permanent Magnet Synchronous Motor						
	Motor - Inverter, type of cooling		Water-based cooling						
	Protection rating (IP-rating)		IP6K7 and IP6K9K						
	Regenerative brake function		Yes / charging of battery						
	Acceleration settings / power programming		In 10 steps (1 - 10)						
	Retardation settings / brake programming		In 10 steps (1 - 10)						
	Traction drive motor, max power (S1 continuous duty) @ rated speed	kW	115			115			
	Traction drive motor, max power (S2 short time duty) @ rated speed	kW	242			242			
	Hydraulic pump motor, max power (S1 continuous duty) @ rated speed	kW	130			130			
	Hydraulic pump motor, max power (S2 short time duty) @ rated speed	kW	232			232			
	Auxiliary motor, max power (S1 continuous duty) @ rated speed	kW	22			22			
Auxiliary motor, max power (S2 short time duty) @ rated speed	kW	44			44				
DRIVE	Manufacturer - transmission brand		Bosch-Rexroth						
	Transmission - type designation		1-speed / speed reduction						
	Manufacturer - drive axle brand		Kessler						
	Drive axle - type designation		D91-PL489 / differential + hub reduction				D91-PL408 / differential + hub reduction		
	Energy consumption, normal driving, average values ²	kWh/h	28 - 40				35 - 46		
	Energy consumption, according EN16796	kWh/h	TBD				TBD		
BATTERY	Battery technology / type		Lithium-Ion - NMC (LiNiMnCoO2)				Lithium-Ion - NMC (LiNiMnCoO2)		
	Battery unit, cooling / heating		Water-based cooling / heating						
	Battery nominal capacity	kWh	163			163		245	
	Battery usable capacity	kWh	139			139		210	
	Optional battery capacity	kWh	245			245 & 392		392	
	Optional Battery usable capacity	kWh	210			210 & 314		314	
	System nominal voltage	V	666						
	Charging inlet capacity (max)	kW	350 (continuous)						
	Charging inlet standard ³		CCS1 or CCS2						
	Charging heather connection	A	400V / 32A / 3-PHASE / NE						
	Control system battery, voltage – capacity	(V / Ah)	2x12 / 135-145						

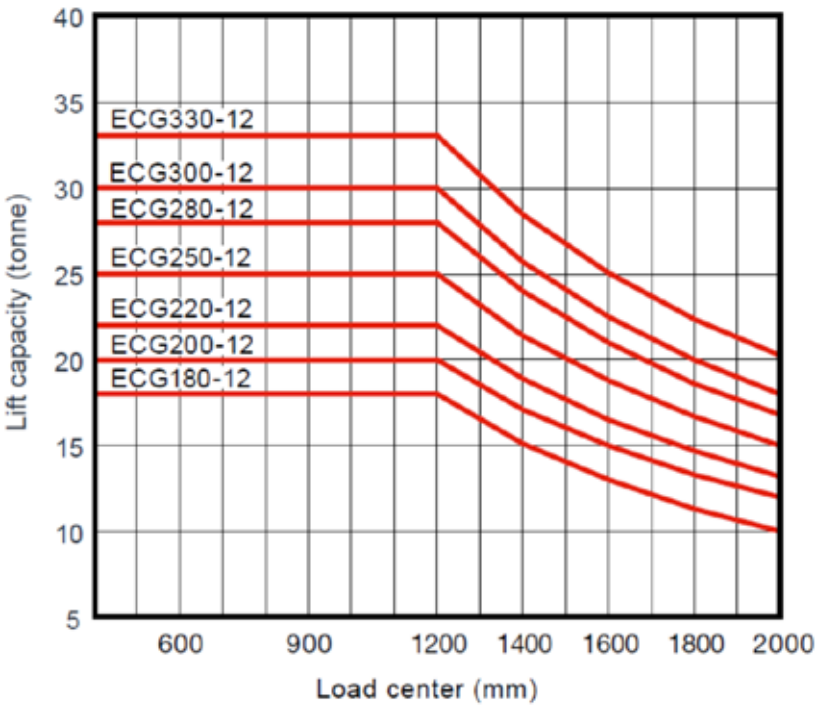
- Notes:
1. Technical data is preliminary and is subject to change.
 2. Energy consumption; low, medium or high intensity duty cycles.
 3. Europe; type CCS2 available from 2022.
USA/CAN; type CCS1 available from 2025.

Performance*

Models				ECG 180-12	ECG 200-12	ECG 220-12	ECG 250-12	ECG 280-12	ECG 300-12	ECG 330-12-9
SPEEDS	Travel speed, forward - reverse	Unloaded	km/h	25 - 25	25 - 25	25 - 25	25 - 25	25 - 25	25 - 25	25 - 25
		At rated load	km/h	25 - 25	25 - 25	25 - 25	25 - 25	25 - 25	25 - 25	25 - 25
	Lifting speed	Unloaded	m/s	0.40	0.40	0.40	0.4	0.35	0.35	0.35
		At 70 % of rated load	m/s	0.40	0.40	0.40	0.40	0.35	0.35	0.35
	Lowering speed	Unloaded	m/s	0.34	0.34	0.34	0.34	0.32	0.32	0.32
		At rated load	m/s	0.40	0.40	0.40	0.40	0.40	0.40	0.4
POWER	Gradeability, boost function (max)	Unloaded	%	29	27	26	24	21	20	19
		At rated load	%	17	15	14	13	11	10	10
	Gradeability, 1-5km/h (Cont)	Unloaded	%	18	17	16	15	13	12	12
		At rated load	%	10	9	9	8	7	6	6
	Drawbar pull, max boost		kN	83	83	83	83	83	83	83
	Drawbar pull, max continuous		kN	54	54	54	54	54	54	54
SOUND	Noise level, inside EGO cabin	EN12053, LpAZ	dB(A)	68	68	68	68	68	68	68
	Noise level, outside	EN12053, LWAZ	dB(A)	96	96	96	96	96	96	96
	Noise level, outside	2000/14/EC, LWAZ	dB(A)	98	98	98	98	98	98	98

* All data is correct at time of publication.

Load capacity



Lifting equipment*

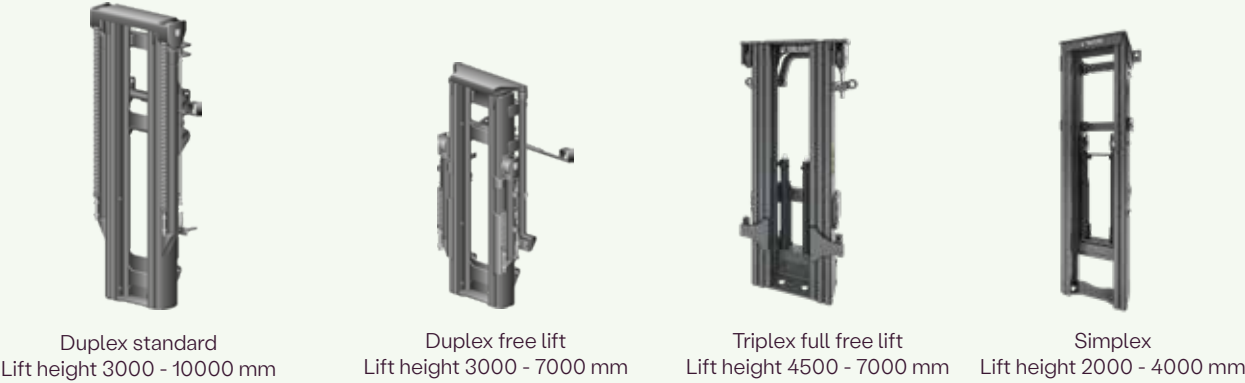
We offer a full range of duplex, triplex and free-lift equipment.*

DUPLEX STANDARD (2-stage / NFL)	ECG180-250				ECG280-330			
	Lift Height	Mast Height		Free Lift	Lift Height	Mast Height		Free Lift
	H4	H3 min	H5 max	H2	H4	H3 min	H5 max	H2
	3000	3320	4820	–	3000	3520	5020	–
	3500	3570	5320	–	3500	3770	5520	–
	4000	3820	5820	–	4000	4020	6020	–
	4500	4070	6320	–	4500	4270	6520	–
	5000	4320	6820	–	5000	4520	7020	–
	5500	4570	7320	–	5500	4770	7520	–
	6000	4820	7820	–	6000	5020	8020	–
DUPLEX FREE LIFT (2-stage / FFL 50%)	ECG180-250				ECG280-330			
	Lift Height	Mast Height		Free Lift	Lift Height	Mast Height		Free Lift
	H4	H3 min	H5 max	H2	H4	H3 min	H5 max	H2
	3000	3420	4920	1500	3000	3620	5120	1500
	3500	3670	5420	1750	3500	3870	5620	1750
	4000	3920	5920	2000	4000	4120	6120	2000
	4500	4170	6420	2250	4500	4370	6620	2250
	5000	4420	6920	2500	5000	4620	7120	2500
	5500	4670	7420	2750	5500	4870	7620	2750
	6000	4920	7920	3000	6000	5120	8120	3000
TRIPLEX FREE LIFT (3-stage / FFL 33%)	ECG180-250				ECG280-330			
	Lift Height	Mast Height		Free Lift	Lift Height	Mast Height		Free Lift
	H4	H3 min	H5 max	H2	H4	H3 min	H5 max	H2
	4550	3500	6350	1700	4550	–	–	–
	4625	–	–	–	4625	3680	6630	1625
	5150	3700	6950	1900	5150	–	–	–
	6000	–	–	–	6000	4130	8010	2100
SIMPLEX (1-stage)	ECG180-250				ECG280-330			
	Lift Height	Mast Height		Free Lift	Lift Height	Mast Height		Free Lift
	H4	H3 min	H5 max	H2	H4	H3 min	H5 max	H2

- Notes*:
- ECG90-140: models ECG90-6, 100-6, 120-6, 127-6 and 140-6.
 - ECG100-180: models ECG150-6, 160-6, 180-6, 160-9, 100-12, 120-12, 150-12 and 160-12.
 - ECG90/100/120-6 has 11.00x20" tires, when using 12.00x20" tires, please add +25 mm on H3 and H5.
ECG127/140-6 has 12.00x20" tires, please add +25 mm on H3 and H5.
 - Duplex Heavy-Duty: mast range with additional reinforcements.
 - The lifting cylinders are mounted behind the mast profiles on Duplex Standard, Duplex Freelift & Triplex freelift.
The lifting cylinders are mounted outside the mast profiles on Duplex Heavy-Duty.
The freelift cylinders are mounted inside the mast profiles on Duplex Freelift and Triplex freelift.

Attachments

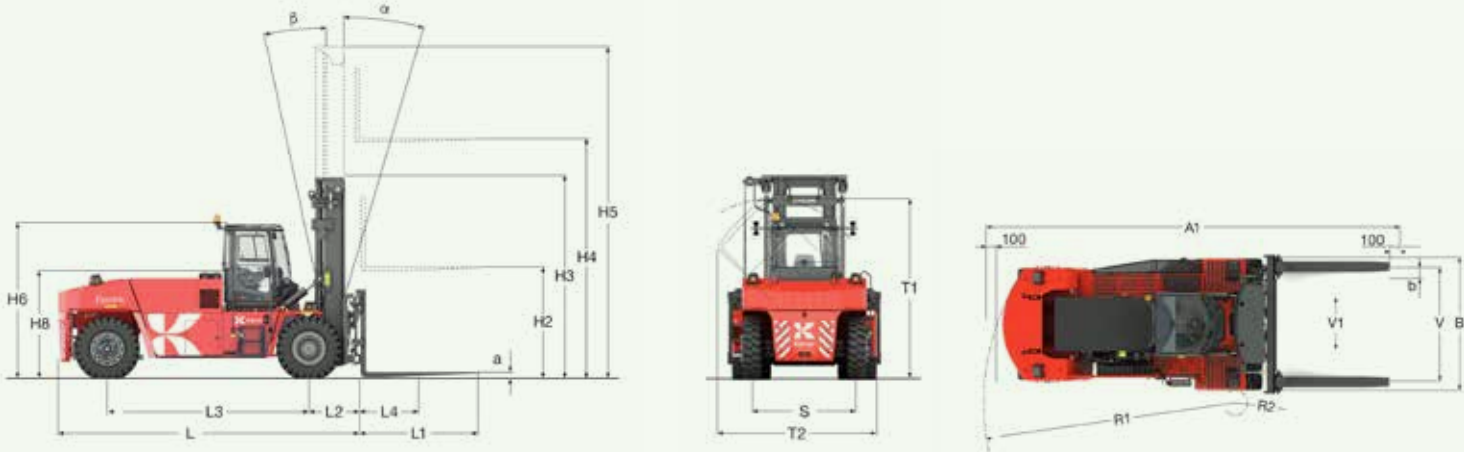
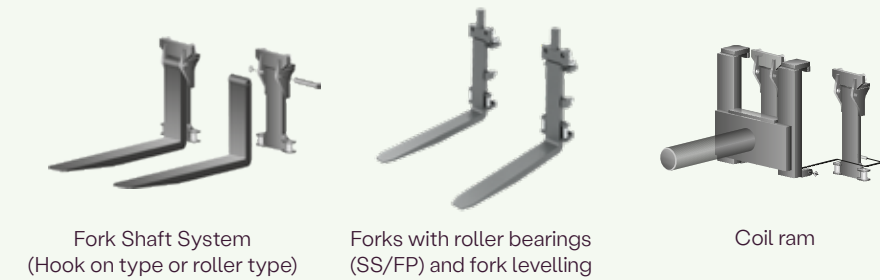
Masts



Carriages



Forks





All Kalmar Electric Forklifts come with a 1 year/2000 hour warranty.



Kalmar

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