



# Electric Reachstacker

ERG450-700 Range



# Start your decarbonisation journey today

Kalmar's electrically powered reachstacker can help improve the eco-efficiency of your operations while maintaining the highest levels of productivity and safety. With a range of modular battery options and charging solutions, we can work with you to design a solution that will deliver for your business.

## Eco-efficiency built in

Being electrically powered, your reachstacker will produce zero carbon emission 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 reachstacker is only the start of your eco-efficient journey. One that we will be with you every step of the way.

## Productive by nature

With an electric 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 70 tonnes efficiently and safely. Less time will be spent servicing and maintaining your electrically powered reachstacker 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 reachstackers 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 reachstacker's 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 Reachstackers come with a 2 year/4000 hour warranty. Charging solutions are covered for 2 years and batteries for up to 5 years. Additional warranties up to 10 years for the reachstacker and 5 years for the charger are available for complete peace of mind.



**The Kalmar electrically powered reachstacker can help improve the eco-efficiency of your operations while maintaining the highest levels of productivity and safety.**

# Our electric portfolio

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

## 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

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.

## 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.

## Empty Container Handler

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

## Forklift Trucks

Kalmar's electrical powered forklifts offer a broad range of lifting capacities from 5 to 33 tonnes, a choice of battery solutions and can be used for a variety of material handling applications.

## Reachstackers

Kalmar offers a choice of electrically powered reachstackers with a wide range of lifting applications, battery solutions and a lifting capacity up to 70 tonnes.

## Terminal Tractors

Kalmar's T2 EV 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.

## 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.

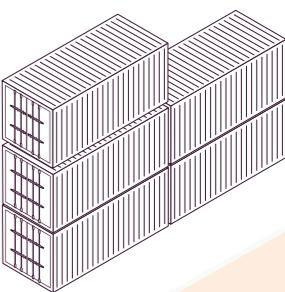
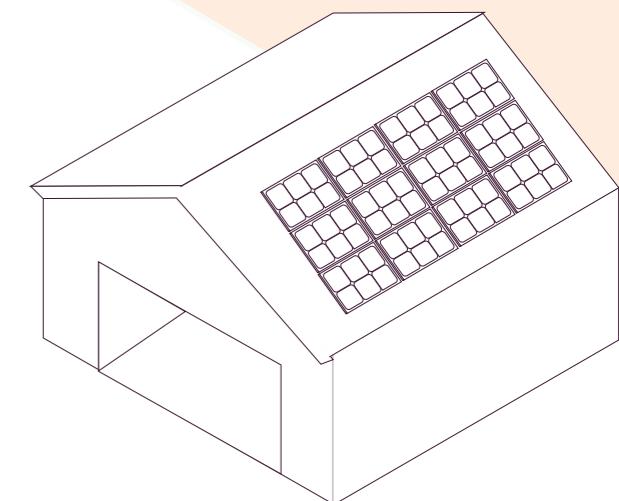
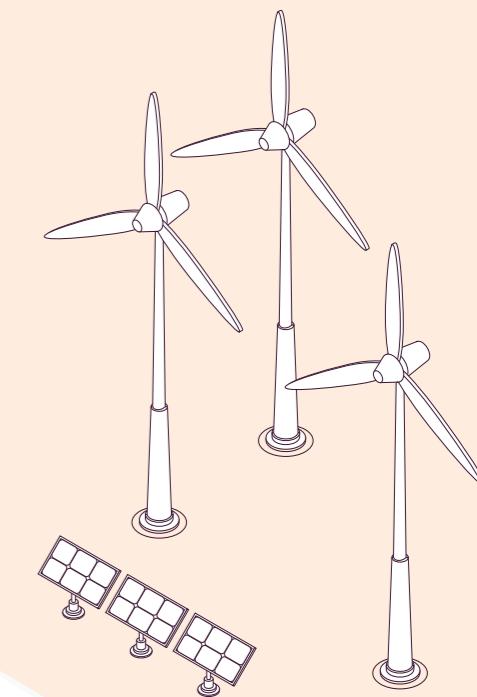
## Site Power Grid

## Local Grid

Sub Station Transformer

## Charging Posts

We offer several different charging solutions. They can come with one or two charging guns and we have a small mobile unit that can be used to quickly charge your equipment if it isn't near a charging point and has run out of charge.



# 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 four different charging options with charging capacities from 175-350 kW and four different Li-ion batteries to choose from. Our battery solutions all come with a 5 year warranty and have an expected 10-12 year life.

Kalmar can help you work out which battery solution and charging option is right for your business based on your current work cycle and the opportunities you have to top-up your battery during a shift.



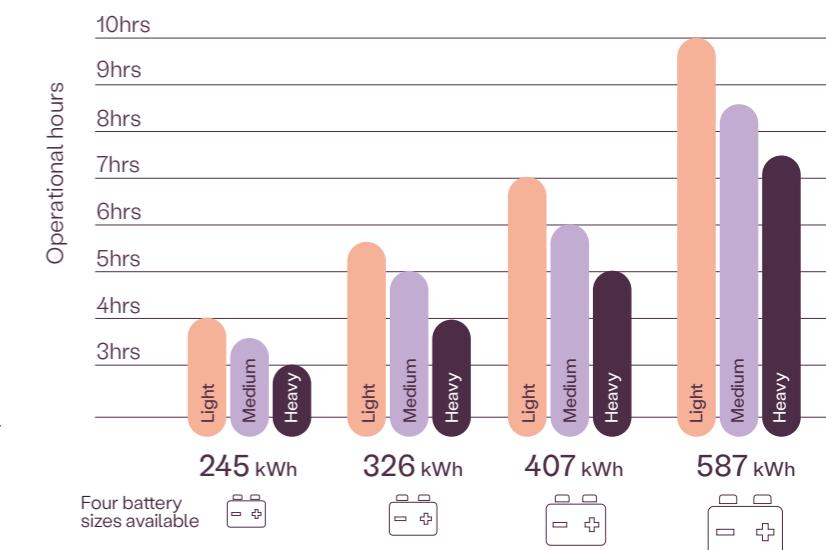
## Eco-efficient by nature

By combining a highly efficient electrically powered motor, with direct drive hydraulics you get a driveline combination that will deliver on power and productivity while producing zero carbon emissions at source.

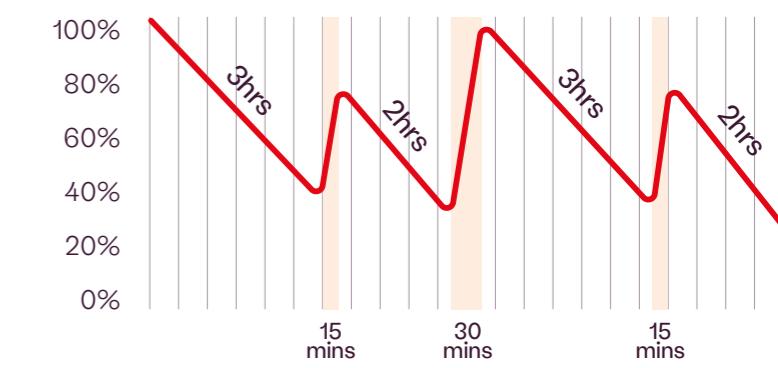
The complete system has been designed to minimise energy losses. With improved battery lifetime, performance and monitoring, energy losses have been minimised allowing for long charging intervals. Regenerative power from the braking system returns power to the batteries, further enhancing the overall efficiency of the system.

There are four different Li-ion batteries to choose from which can be quickly opportunity charged during operational hours or fully charged overnight.

## Operational hours per drive cycle



## Opportunity charging



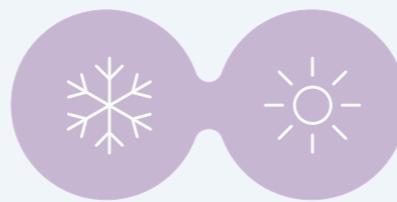
Opportunity charge to match work cycles.

## Productive in extreme weather conditions

All of Kalmar's Electric Reachstackers come fitted with a Thermal Management System which keeps your battery operating at an optimal temperature over a broad range of external temperatures.

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 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. Data from the Battery Monitoring System is displayed in Kalmar Insight allowing you to secure optimal battery use to ensure warranty conditions are met and the longest possible lifetime of the battery can be obtained.



### Powertrain

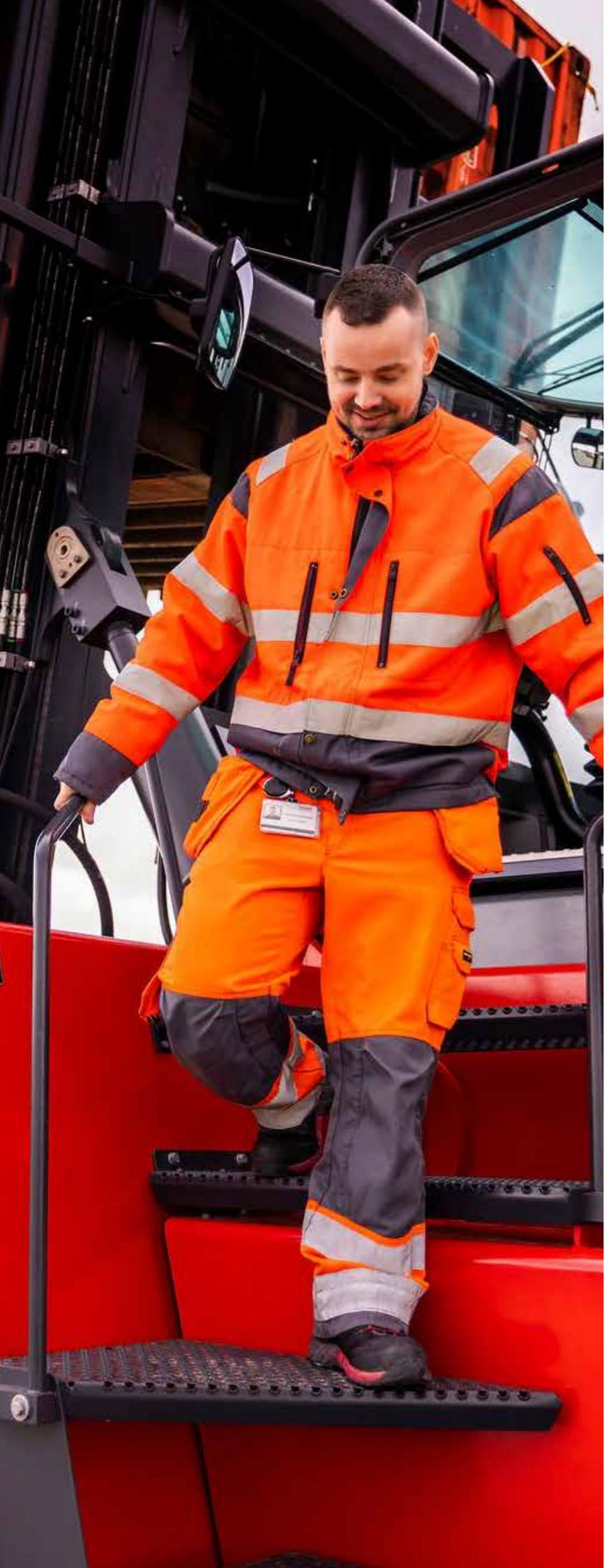
DRIVETRAIN	Drive axle, manufacturer - type		Kessler D102 - Differential and hub reduction			
	Drive motor, manufacturer - type designation		BoschRexroth - EMS1H 13E60			
	Drive motor power, rated continuous - max	kW	182 - 405			
	Transmission, manufacturer - type designation		BoschRexroth / eGFZ9275 1-speed			
	Load handling motor, manufacturer - type designation		BoschRexroth / EMS1H 20B20			
	Load handling motor capacity, rated continuous - max	kW	110 - 230			
	Auxiliary motor, manufacturer - type designation		BoschRexroth / EMS1H 13B15			
	Auxiliary motor capacity, rated continuous - max	kW	23 - 50			
BATTERY	Energy consumption	kWh/h	40 - 68			
	Battery type		Lithium-ion			
	Battery nominal capacity	kWh	245	326	407	587
	System nominal voltage	V	565 - 754			
	Charging inlet capacity, max	kW	350			
	Charging inlet standard		CCS1**, CCS2			

\* First life, meaning until 80% capacity is left in the battery.

\*\* Available 2025.

## 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

**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.

## 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.



**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.



**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.



**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.



**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.



**Anti-slip Protection Tape on fenders and tanks.** Anti-slip Protection Tape provides additional traction on fenders and tanks to reduce any slipping hazards for driver's and maintenance personnel while working on your Kalmar Reachstacker.



**Reverse Camera System.** Knowing what is going on behind you is critical when reversing your Kalmar Reachstacker, which is why they are all fitted with a high resolution [1080p] cabin display screen and reversing camera providing excellent rear visibility.



**Speed Limiter outside transport mode.** Makes sure your Kalmar Reachstacker is always operating at a safe speed when it isn't carrying a load, helping to reduce the risk of accidents and promoting safe operating practices.



**Towing Coupling with removable pin.** Should something go wrong with your Kalmar Reachstacker we have made it safer to use both tow bars and tow slings making it quicker and easier to recover your machine.

# More options

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

 **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.

 **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 harms 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.

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.

 **Reduced Steering Radius System.** By reducing the overall steering radius of your reachstacker you will reduce wear and tear, extending the life of your tyres.

 **Reverse Warning System.** Knowing what's going on behind you is critical when other personnel are present. Four 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 on the spreaders or on the front of the machine.

## Kalmar Tracker

 **Container Weighing and Load Centricity.** A SOLAS compliant solution that automatically weighs and records the container load your machine is handling.

 **Container ID Recognition.** Automatic capture and registration of the container ID allows your drivers to focus on safe and productive container handling.

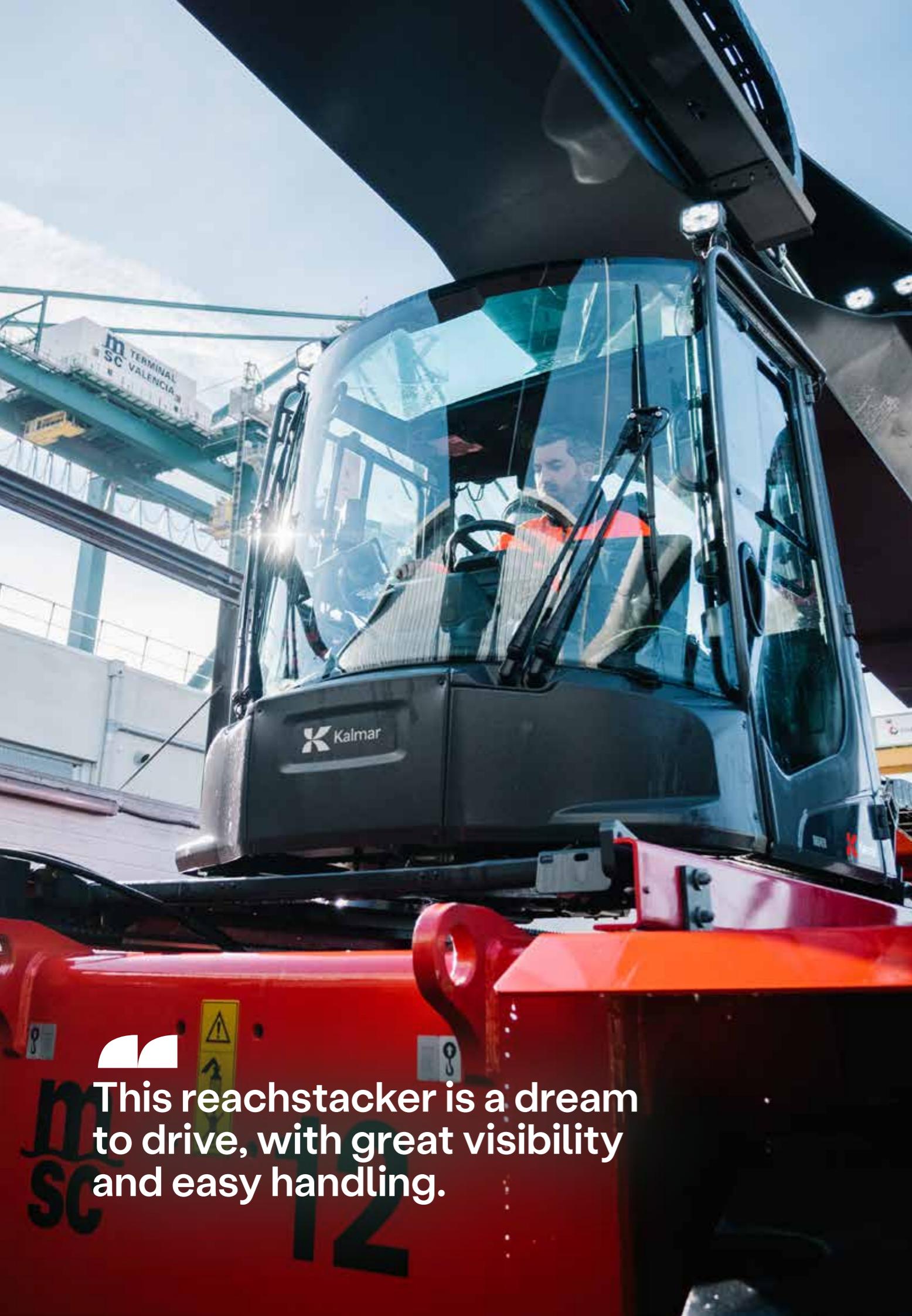
 **Container Locator.** Ensures you always know where each individual container is in your yard, at any given time.\*\*



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

 **Drive Speed Limitation System.** Automatically restricts the speed at which your equipment can be operated, helping to reduce wear and tear as well as fuel consumption.





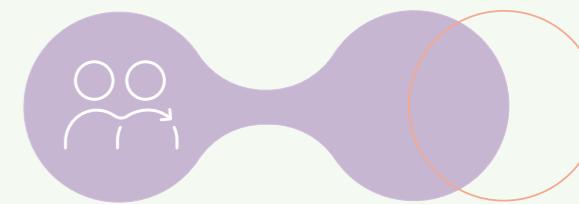
**This reachstacker is a dream to drive, with great visibility and easy handling.**

# Designed for the driver

## Ergonomically designed

Kalmar Electric Reachstackers 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 Reachstacker, with its electrically powered driveline, is quieter inside and outside the cabin, vibrates less than traditional reachstackers and produces no carbon emissions, further enhancing driver comfort.



### 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 reachstacker comes with a wide choice of joysticks or lifting levers, an electronically adjustable work console and side tilting steering wheel. All designed to make operating your reachstacker 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.



# Keep moving with Kalmar Services

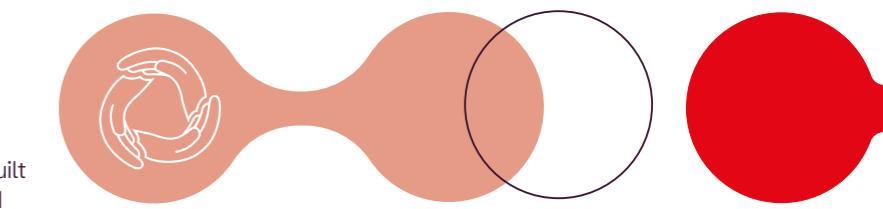
To keep your business moving Kalmar Services offers a range of services that can help you keep your equipment moving optimally.

## 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



## 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

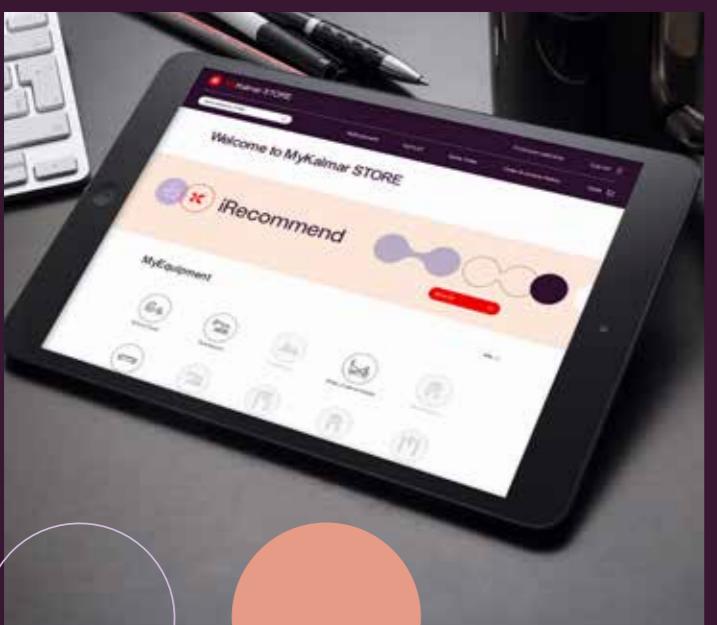
order the required parts automatically. All enabling you to take action on real-time information, that will help improve your overall operations immediately. Kalmar Insight comes fitted and ready to be activated in all new Kalmar equipment, it can also be retrofitted into existing Kalmar equipment or those built by other manufacturers.



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

## MyKalmar STORE

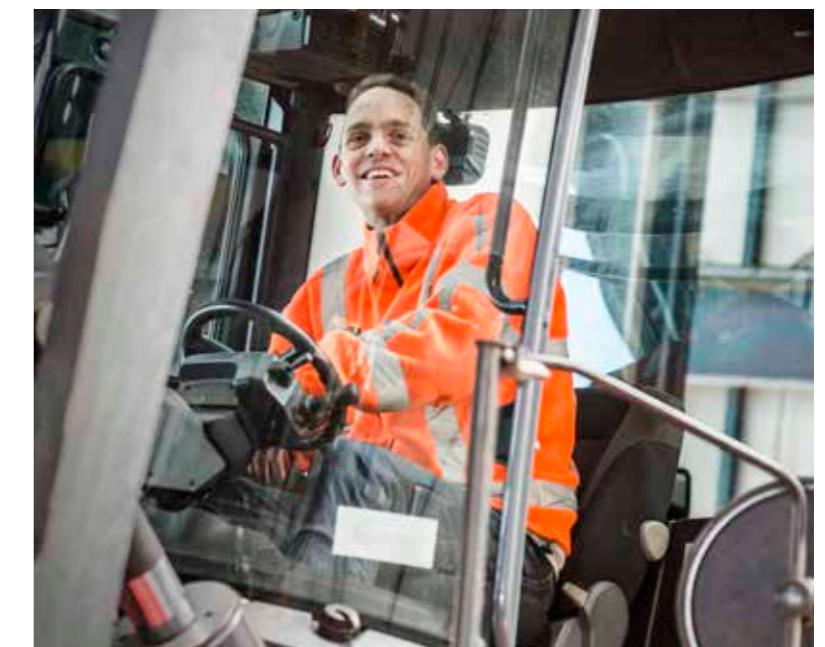
MyKalmar STORE is your one stop shop for all the parts you need which is accessible through MyKalmar. Open 24/7, accessible on any screen and available in different languages, MyKalmar STORE stocks 100s of thousands of Kalmar Genuine Parts at any given time and we can have them delivered quickly to you, 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\*

Kalmar ERG450S-450S (S = Container - Top Lift)  
 Kalmar ERG450C-450C (C = Intermodal - Combi Lift)  
 Kalmar DRG 700 Z-700Z (Z = Lift Hook)

## Norms, Standards and Regulations

- Machinery Directive 2006/42/EC
- Safety Industrial Trucks Standard ISO 3691-2, (EN 1459+A3)
- Safety Low & High Lift Trucks Standard ANSI / ITSDF B56.1
- Stability of Reachstackers Standards ISO 22915-1, -12
- Electrics / Electronics Standard EN 1175
- Electromagnetic Compatibility Directive 2014/30/EC
- Electromagnetic Compatibility Standard EN 12895
- 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 and durable heavy-duty chassis
- Safe access steps, platform & hand-rails (LHS)
- Long bottom access step (on both sides)
- Lifting eyes and anchor points (front & rear)
- Good rear end visibility of the truck
- Towing pin (rear)

## Body

- Steps with anti-slip protection
- Anti slip protection on fenders and tanks
- Rear view mirrors (2x) - rear on front mudguards
- Strong and protective mudguards (front & rear)
- Basic noise insulation for the entire truck

## Steer Axle (Rear)

- Kalmar steer axle mounted dual pivot bearings
- Orbitrol power steering with double acting cylinder
- Wheel nut protection on steer tyres

## Drive Axle (Front)

- Kessler drive axle with differential and hub reduction
- Wide axle for high side stability (4150 mm)
- Oil-cooled Wet Disc Brakes (WDB)
- High pressure filter (10 µm) for the brakes

## Wheels (Tyres & Rims)

- Strong wheels (tyres and rims) in 18.00x25" & 18.00x33"

## Powertrain

- Traction motor 133 kW cont.
- Pump motor 130 kW cont
- Auxiliary motor 22 kW cont.
- BoschRexroth transmission
- System voltage 666 V (nominal)
- Regenerative braking

## Thermal Management System (Lithium-ion)

- Battery Management 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 motors, inverters, battery, oils and cabin
- Power limitation functions to optimise consumption
- Limp home function at low SOC% (drive speed 8 km/h)

## Load-Sensing Hydraulics

- Load-sensing variable piston pumps
- Pumps for boom, spreader, brakes & steering
- Vane pumps for brake & oil cooling (2x)
- Return filters for the work hydraulics (2x/10 µm)
- Hydraulic long-life fine filter with by-pass (5 µm)
- Servo filter for the work hydraulics (10 µm)
- Pressure filter for the brakes (10 µm)
- Regeneration high-speed lifting & extension
- Boom end-damping (in-out/up-down/20-40°)
- Hydraulic tank (700 lit), cooling, breather filter & ORFS-couplings

# Options\*

Kalmar ERG450S-450S (S = Container - Top Lift)  
 Kalmar ERG450C-450C (C = Intermodal - Combi Lift)  
 Kalmar DRG 700 Z-700Z (Z = Lift Hook)

## Information Systems

- Colour display & automatic fault analysis
- Menu control with toggle wheel & push buttons
- Electronic safety, overload, scale & synchronized lift functions
- Longitudinal Load Moment Indicator (Pop-Up Menu)
- Longitudinal Load Moment Control (Pop-Up Menu)

## Operator menu:

- System voltage
- Travelling speed (km/h or mph)
- Hydraulic oil temperature
- Clock and date
- Load info (tons) & Load Centre info (mm)
- Boom extension & Boom angle
- Operating time (hours)
- Service time indicator (hours)
- Boom angle and Boom extension
- Electronic weight scale functions
- Status of Heating, Ventilation and AC system
- Service indicator
- Container counter with reset function
- Trip computer / statistics

## Various warning lights & signals:

- 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

## Indicator lamps:

- Direction indication
- Parking brake

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

## Warranty

- Base machine (excl. battery)  
24 months / 4000 hours
- Battery warranty 5 years or defined kWh

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 Kalmar DRG 700 Z-700Z (Z = Lift Hook)

## Chassis

- ERG ranges in Toplift (S), Intermodal (C) and Lift Hook (Z)
- Wheelbases: 6.00 - 6.50 m and 7.00 - 7.50 m

## Body

- External rear view mirrors (2x)
- Noise insulation kit for the entire truck
- Storage boxes (2x) left and right tank
- Mud flaps (front or/and rear)

## Steer Axle (Rear)

- Steer cylinder spacer (less tyre wear)

## Wheels (Tyres & Rims)

- Spare wheels, tyres and rims for 18.00x25"

## Battery

- 245 kWh battery 17.5 Ah (nominal capacity)
- 326 kWh battery 17.5 Ah (nominal capacity)
- 407 kWh battery 17.5 Ah (nominal capacity)
- 587 kWh battery 21 Ah (nominal capacity)
- Various programmable speed limitations

## Load-Sensing Hydraulics

- High pressure filter

## Attachment

- Tilt function F/R ±2 deg, tilt lock, speed 5 km/h
- Hydraulic Pile Slope, HPS ±5 deg (side tilt), incl tilt lock and speed 5 km/h
- Rotation stop at ±25 deg (incl override switch)
- Automatic extension 20°-40° incl 30° stop
- 2 extra lift eyes, centre of spreader (2 x 22.5 T)
- 4 extra lift eyes, middle of spreader (4 x 11.2 T)
- Soft landing with ultrasonic sensor (less noise)
- Twistlock rubber damper (100 mm longer)
- Extended twistlocks 300 mm (250 mm longer)
- Cylinder extension 20°-40° on standard/Tilt/HPS
- WTP Top Lift (Wide Twl Pos), HPS ±5 deg, 30°-35° stop, TWL = 2260-2448 mm
- Coil ram, 35 tons, coil ID/OD = 500/3000 mm.
- Lift hook (1x) + lift eyes (4x), max 50 tons, slave attachment for 20ft
- Various industrial lift units, mounted in slave attachments for 20ft

## Electrical System 24V

- Radio with CD / MP3 / Bluetooth / DAB
- Extra sockets 2x24V+2x12V (in door columns)
- Extra sockets 2x24V+2x5V USB (door columns)
- Electric air pressure horn
- Height limitation system for lifting boom
- Load centre limitation for lifting boom
- Speed limitation (default 19 km/h, but editable)
- Speed warning at 15km/h
- Extra working light, LED 2x, on front mudguards
- Extra working light, LED 4x, on front mudguards
- Extra working light, LED 2x, on spreader
- Extra working light, LED 2x, middle of boom
- Extra working light, LED 4x, front of boom
- Extra reverse light, LED 2x, on rear light bracket
- Extra rotating beacon, LED, in boom nose front
- Extra rotating beacon, LED, right side on CW
- Extra rotating beacon, LED, left side on CW
- Flash light replacing STD beacon on boom
- Electric heated mirrors, front fender/standard pos
- Electric heated and adjustable mirrors, on front fenders (standard position)
- Tyre pressure monitoring system (Bluetooth)

## Information Systems

- VDI - Vehicle Data Interface

## Fleet Management

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

## Kalmar Load Measurement System

- Semi-automatic weight checking and recording system including time, date and load
- SOLAS compliant (VGM - Verified Gross Mass)

## Colour

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

## Documentation and Decals

- Extra set of documentation
- Workshop manuals
- Volvo trouble shooting and repair kit
- Load chart lbs/inch in cab & sign 'no riders'
- Documentation on CD or memory stick
- Maintenance manual, printed
- Spare parts catalogue, printed

## Training

- Various training packages, for drivers, service, maintenance, software etc
- Contact Kalmar Training Centre for more information and planning

## Warranty

- Extended warranty packages available
- 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
  - Cobalt (battery + charger): up to 8 yr/16.000h\*
- Contact Kalmar for more information

## Additional Equipment

- Fire extinguisher 6 kg, powder
- Tool kit
- Extra sound insulation - reduction 3 dB(A)
- Central greasing (base truck + steering)
- Central greasing (entire spreader)
- Filter kit 2000 - 4000 hrs

## Safety

### Enhanced Safety Package including:

#### - Reverse warning system including sensors

#### - Tyre pressure monitoring system

#### - Adjustable speed limiter (default 19 km/h)

#### - Seat belt interlock (machine will not go in gear if seat belt is off)

#### - Front chassis camera, 1x, above drive axle

#### - Front of outer boom, 1x, facing forward

#### - Below inner boom, 1x, facing forward

#### - Twistlock cameras, 2x, in spreader end beams

#### - Combi legs camera, 2x, facing down on trailer

#### - Reverse warning system, TFT-7" display, reverse camera, 4 rear sensors

#### - Forward warning system, TFT-7" display, reverse camera, 4 rear sensors

#### - Alcolock Draeger in cabin

#### - Height limitation system for lifting boom, specify height

#### - Including load centre limitation for lifting boom

#### - Semi-automatic fire suppression system

#### - Speed limitation, please specify km/h

#### - Various speed limitations (with/without load)

#### - Speed warning at 15km/h

#### - Speed limitation (default setting 19km/h)

## Information Systems

- VDI - Vehicle Data Interface

## Fleet Management

### Kalmar Insight licence (only certified countries)

### Kalmar Insight Driver Monitor (RFID reader + 10 unique driver tags)

### Kalmar Insight extra driver tags (10 tags)

## Kalmar Load Measurement System

### Semi-automatic weight checking and recording

### system including time, date and load

### SOLAS compliant (VGM - Verified Gross Mass)

Note\*: Data is preliminary and is subject to change.

# Specifications\*

Models		ERG450-60S5			ERG450-60S5M		ERG450-60S5X		ERG450-65S5		ERG450-65S5X		ERG450-65S5XS		ERG450-65S6		ERG450-65S6X		ERG450-65S6H		ERG450-65S6HX		ERG450-65S6HXS	
		Container		Container		Container				Container		Container		Container		Container		Container		Container		Container		
MODEL LIFTING CAPACITY	Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3- Q4	tons	45 - 27 - 13	45 - 30 - 15	45 - 35 - 18			45 - 32 - 16	45 - 38 - 21	45 - 38 - 21	45 - 32 - 16 - 9	45 - 38 - 21 - 12	45 - 33 - 18 - 10	45 - 39 - 21 - 13	45 - 39 - 21 - 13								
	Lift capacity, row 1-2-3-4 (with jacks)	Q1 - Q2 - Q3- Q4	tons							45 - 41 - 29														45 - 41 - 29 - 18
	Load centre, from front face of tyres, row 1-2-3-4	L4 - L5 - L6 - L7	mm	1965 - 3815 - 6315					1965 - 3815 - 6315	1865 - 3815 - 6315	1865 - 3815 - 6315	2265 - 3815 - 6315	2165 - 3815 - 6315	2965 - 3815 - 6315 - 8815	2865 - 3815 - 6315 - 8815	2865 - 3815 - 6315 - 8815								
	Stacking capacity, in container row 1-2-3-4 of 8'6" / 9'6"		mm	5/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3			5/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3	6/5 - 5/5 - 4/4 - 2/2	6/5 - 5/5 - 4/4 - 2/2	6/6 - 6/5 - 5/4 - 4/3	6/6 - 6/5 - 5/4 - 4/3	6/6 - 6/5 - 5/4 - 4/3								
	Lost load centre, to front face of tyres	X	mm	835	835	935			835	935	935	835	935	835	935	935								
	Wheelbase	L3	mm	6000	6000	6000			6500	6500	6500	6500	6500	6500	6500	6500								
	Service weight, standard truck		kg	70900	72900	81000			73000	79800	83800	74000	81000	77000	86000	86000								
	Axle load, front at load centre L4, unloaded - loaded	(no jacks)	kg	37100 - 103100	37100 - 103100	38100 - 104100			37500 - 101900	37500 - 101900	41000 - 105400	38500 - 105000	39000 - 105500	41500 - 112800	44000 - 115300	45000 - 116300								
	Axle load, front at load centre L5, unloaded - loaded	(no jacks)	kg	41500 - 89400	41500 - 93700	42700 - 105400			41500 - 96400	41700 - 107500	43300 - 11100	42000 - 96900	42700 - 108400	43500 - 100100	46300 - 113800	47300 - 114800								
	Axle load, rear at load centre L4, unloaded - loaded		kg	33800 - 12800	35800 - 14800	42900 - 21900			35500 - 16100	42300 - 22900	42800 - 23400	35500 - 14000	42000 - 20500	35500 - 9200	42000 - 15700	41000 - 15700								
DIMENSIONS	Boom angle, min - max		deg	0 - 60	0 - 60	0 - 60			0 - 60	0 - 60	0 - 60	0 - 62	0 - 62	0 - 63	0 - 63	0 - 63								
	Boom height, min - max	H3 - H5	mm	4600 - 18200	4600 - 18200	4700 - 18300			4600 - 18200	4700 - 18300	4700 - 18300	4500 - 19250	4600 - 19350	4700 - 20800	4700 - 20900	4700 - 20900								
	Chassis height - top of boom fixation, max	H2	mm	3925	3925	4025			3925	4025	4025	3925	4025	3925	3925	3925								
	Lift height, max	H4	mm	15100	15100	15200			15100	15200	15100	16200	16300	17700	17800	17800								
	Boom reach stroke		mm	7000	7000	7000			7000	7000	7000	7700	7700	8500	8500	8500								
	Truck height - seat height	H6 - H8	mm	4600 - 2575	4600 - 2575	4700 - 2675			4600 - 2575	4700 - 2675	4700 - 2675	4500 - 2575	4600 - 2675	4700 - 2575	4700 - 2675	4700 - 2675								
	Overall truck length with boom	L	mm	11200	11200	11200			11700	11700	11700	12000	12000	12700	12700	12700								
	Truck width over drive axle	B	mm	4150	4150	4150			4150	4150	4150	4150	4150	4150	4150	4150								
	Spreader sideshift	V1	mm	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)			=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)								
	Spreader rotation		deg	=+195/-105	=+195/-105	=+195/-105			=+195/-105	=+195/-105	=+195/-105	=+195/-105	=+195/-105	=+195/-105	=+195/-105	=+195/-105								
WHEELS	Ground clearance		min	250	250	300			250	300	300	250	300	250	300	300								
	Aisle width with 20'40' container	A1 - A2	mm	11200 - 13600	11200 - 13600	11200 - 13600			11600 - 13600	11600 - 13600	11600 - 13600	11900 - 13900	11900 - 13900	12300 - 14150	12300 - 14150	12300 - 14150								
	Turning radius, outer with 20'40' container (at 90 degree turn)	R1 - R3	mm	8100 - 9400	8100 - 9400	8100 - 9400			8500 - 9400	8500 - 9400	8500 - 9400	8500 - 9450	8500 - 9450	8600 - 9450	8600 - 9450	8600 - 9450								
	Turning radius, outer (at 90 degree turn)	R1	mm	-	-	-			-	-	-	-	-	-	-	-								
	Number of wheels, front - rear (x = driven)			4 - 2					4 - 2															
	Tyres	Pneumatics, type / pressure (front - rear)		MPa	Diagonal / 1.0				Diagonal / 1.0															
	Dimensions, front - rear		tum	18.00x25"	18.00x25"	18.00x33"			18.00x25"	18.00x33"	18.00x33"	18.00x25"	18.00x33"	18.00x25"	18.00x33"	18.00x33"								
	Rims	Dimensions, front - rear		tum	13.00x25"/2.5	13.00x25"/2.5	13.00x33"/2.5			13.00x25"/2.5	13.00x33"/2.5	13.00x33"/2.5	13.00x25"/2.5	13.00x33"/2.5	13.00x25"/2.5	13.00x33"/2.5	13.00x33"/2.5							
	Track width (front - rear)	S1 - S2	mm	3030 - 2600	3030 - 2600	3030 - 2800			3030 - 2600	3030 - 2800	3030 - 2800	3030 - 2600	3030 - 2800	3030 - 2600	3030 - 2800	3030 - 2800								
AXLES	Steer axle	Manufacturer, type - designation		Electro-hydraulic servo - steering wheel with orbitrol					Electro-hydraulic servo - steering wheel with orbitrol															

# Specifications\*

Models					ERG450-70S5X	ERG450-70S5XS	ERG450-70S6HXS	ERG450-75S5XS	ERG450-75S6HXS	ERG450-60C5	ERG450-60C5X	ERG450-65C5	ERG450-65C5X	ERG450-65C5XS	
					Container			Container			Intermodal		Intermodal		
WEIGHTS	Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3- Q4	tons	45 - 41 - 23	45 - 41 - 23	45 - 41 - 23 - 14	45 - 45 - 26	45 - 45 - 27 - 17	45 - 25 - 10	45 - 32 - 15	45 - 28 - 13	45 - 34 - 17	45 - 34 - 17		
	Lift capacity, row 1-2-3-4 (with jacks)	Q1 - Q2 - Q3- Q4	tons	-	45 - 41 - 31	45 - 41 - 31 - 19	45 - 45 - 34	45 - 45 - 35 - 23	-	-	-	-	-	45 - 38 - 24	
	Load centre, from front face of tyres, row 1-2-3-4	L4 - L5 - L6 - L7	mm	1865 - 3815 - 6315	1865 - 3815 - 6315	2865 - 3815 - 6315 - 8815	1865 - 3815 - 6315	2865 - 3815 - 6315 - 8815	1965 - 3815 - 6315	1865 - 3815 - 6315	1965 - 3815 - 6315	1865 - 3815 - 6315	1865 - 3815 - 6315		
	Stacking capacity, in container row 1-2-3-4 of 8'6" / 9'6"		mm	5/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3	6/6 - 6/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3	6/6 - 6/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3		
	Lost load centre, to front face of tyres	X	mm	935	935	935	935	935	835	935	835	935	935		
	Wheelbase	L3	mm	7000	7000	7000	7500	7500	6000	6000	6500	6500	6500		
	Service weight, standard truck		kg	82300	82800	87900	85900	90700	77000	85300	77600	84800	87000		
	Axle load, front at load centre L4, unloaded - loaded	(no jacks)	kg	40000 - 103000	40600 - 103600	45100 - 114500	42500 - 104300	46400 - 114200	43500 - 109500	44500 - 110500	44100 - 108500	44900 - 109300	47000 - 111400		
	Axle load, front at load centre L5, unloaded - loaded	(no jacks)	kg	44000 - 112800	44600 - 13600	47200 - 116000	46300 - 119800	48500 - 122000	49200 - 93600	50500 - 107900	49400 - 97400	50500 - 109300	52700 - 111500		
	Axle load, rear at load centre L4, unloaded - loaded		kg	42300 - 24300	42200 - 24200	42800 - 18400	43400 - 26600	44300 - 21500	33500 - 12500	40800 - 19800	33500 - 14100	39900 - 20500	40000 - 20600		
DIMENSIONS	Axle load, rear at load centre L5, unloaded - loaded		kg	38300 - 10500	38200 - 10300	40700 - 12900	39600 - 11100	42200 - 13700	27800 - 8400	34800 - 9400	28200 - 8200	34300 - 9500	34300 - 9500		
	Boom angle, min - max		deg	0 - 60	0 - 60	0 - 63	0 - 58	0 - 61	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60		
	Boom height, min - max	H3 - H5	mm	4700 - 18300	4700 - 18300	4700 - 20900	4750 - 18400	4750 - 21000	4600 - 18200	4600 - 18500	4600 - 18200	4700 - 18300	4700 - 18300		
	Chassis height - top of boom fixation, max	H2	mm	4050	4050	4050	4025	4025	3925	4050	3925	3925	3925		
	Lift height, max	H4	mm	15100	15100	17800	15200	17800	14900	15000	14900	15000	14900		
	Boom reach stroke		mm	7000	7000	8500	7000	8500	7000	7000	7000	7000	7000		
	Truck height - seat height	H6 - H8	mm	4700 - 2675	4700 - 2675	4700 - 2675	4750 - 2675	4750 - 2675	4600 - 2575	4600 - 2675	4600 - 2575	4700 - 2675	4700 - 2675		
	Overall truck length with boom	L	mm	12200	12200	13200	12700	13700	11200	11200	11700	11700	11700		
	Truck width over drive axle	B	mm	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150		
	Spreader sideshift	V1	mm	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)	=+/-800 (1600)		
WHEELS	Spreader rotation		deg	=+195/-105	=+195/-105	=+195/-105	=+195/-105	=+195/-105	=+195/-105	=+195/-105	=+195/-105	=+195/-105	=+195/-105		
	Ground clearance		min	300	300	300	300	300	250	300	250	300	300		
	Aisle width with 20'40' container	A1 - A2	mm	12100 - 13600	12100 - 13600	12800 - 14350	12500 - 13600	13100 - 14350	11200 - 13600	11200 - 13600	11600 - 13600	11600 - 13600	11600 - 13600		
	Turning radius, outer with 20'40' container (at 90 degree turn)	R1 - R3	mm	9000 - 9400	9000 - 9400	9000 - 9450	9400 - 11400	9400 - 9500	8000 - 9400	8100 - 9400	8500 - 9400	8500 - 9400	8500 - 9400		
	Turning radius, outer (at 90 degree turn)	R1	mm	-	-	-	-	-	-	-	-	-	-		
	Wheels	Number of wheels, front - rear (x = driven)			4 - 2			4 - 2							
	Tyres	Pneumatics, type / pressure (front - rear)			MPa	Diagonal / 1.0			Diagonal / 1.0						
	Rims	Dimensions, front - rear			tum	18.00x33"			18.00x33"	18.00x25"	18.00x25"	18.00x33"	18.00x33"		
	Track width (front - rear)	S1 - S2	mm	13.00x33/2.5			3030 - 2800	3030 - 2800	3030 - 2800	3030 - 2800	3030 - 2800	3030 - 2600	3030 - 2800		
AXLES	Steer axle	Manufacturer, type - designation			Electro-hydraulic servo - steering wheel with orbitrol			Electro-hydraulic servo - steering wheel with orbitrol							
	Steering system				Hydraulic power assisted			Hydraulic power assisted							
	Driver interface, type				Steering wheel orbitrol and optional joystick control / mini wheel			Steering wheel orbitrol and optional joystick control / mini wheel							
	Control valve, manufacturer - type				Danfoss - load sensing			Danfoss - load sensing							
	Steering cylinder, type				Double acting			Double acting							
	Drive axle	Manufacturer, type - designation			Kessler D102-PL341 / drive axle with differential and hub reduction			Kessler D102-PL341 / drive axle with 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							
	Parking brake	Regenerative brake function			30-35% braking with traction motor			30-35% braking with traction motor							
	Type - affected wheels				Single dry disc / spring activated - hydraulic release / drive wheels			Single dry disc / spring activated - hydraulic release / drive wheels							
	Hydraulics	Brand, type			Bosch Rexroth - axial piston variable displacement			Bosch Rexroth - axial piston variable displacement							
HYDRAULICS	Oil pressure	Load handling function			Load sensing / power on demand			Load sensing / power on demand							
	Max working pressure boom / spreader	MPa</td													

# Specifications\*

Models		ERG450-70C5X	ERG450-70C5XS	ERG450-75C5XS
<b>MODEL LIFTING CAPACITY</b>				
	Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3 - Q4	tons	45 - 38 - 20
	Lift capacity, row 1-2-3-4 (with jacks)	Q1 - Q2 - Q3 - Q4	tons	-
	Load centre, from front face of tyres, row 1-2-3-4	L4 - L5 - L6 - L7	mm	1865 - 3815 - 6315
	Stacking capacity, in container row 1-2-3-4 of 8'6" / 9'6"		mm	5/5 - 5/4 - 4/3
	Lost load centre, to front face of tyres	X	mm	935
	Wheelbase	L3	mm	7000
	Service weight, standard truck		kg	86800
<b>WEIGHTS</b>				
	Axle load, front at load centre L4, unloaded - loaded	(no jacks)	kg	46000 - 109000
	Axle load, front at load centre L5, unloaded - loaded	(no jacks)	kg	51300 - 115100
	Axle load, rear at load centre L4, unloaded - loaded		kg	40800 - 22800
	Axle load, rear at load centre L5, unloaded - loaded		kg	35500 - 9700
<b>DIMENSIONS</b>				
	Boom angle, min - max		deg	0 - 60
	Boom height, min - max	H3 - H5	mm	4700 - 18300
	Chassis height - top of boom fixation, max	H2	mm	4050
	Lift height, max	H4	mm	14900
	Boom reach stroke		mm	7000
	Truck height - seat height	H6 - H8	mm	4700 - 2675
	Overall truck length with boom	L	mm	12200
	Truck width over drive axle	B	mm	4150
	Spreader sideshift	V1	mm	=+/-800 (1600)
	Spreader rotation		deg	=+195/-105
	Ground clearance		min	300
	Aisle width with 20'-40' container	A1 - A2	mm	12100 - 13600
	Turning radius, outer with 20'-40' container (at 90 degree turn)	R1 - R3	mm	9000 - 9400
	Turning radius, outer (at 90 degree turn)	R1	mm	-
<b>WHEELS</b>				
	Number of wheels, front - rear (x = driven)			4 - 2
<b>TYRES</b>				
	Pneumatics, type / pressure (front - rear)		MPa	Diagonal / 1.0
	Dimensions, front - rear		tum	18.00x33"
<b>RIMS</b>				
	Dimensions, front - rear		tum	13.00x33/2.5
	Track width (front - rear)	S1 - S2	mm	3030 - 2800
<b>AXLES</b>				
	Steer axle	Manufacturer, type - designation		Electro-hydraulic servo - steering wheel with orbitrol
	Steering system			Hydraulic power assisted
	Driver interface, type			Steering wheel orbitrol and optional joystick control / mini wheel
	Control valve, manufacturer - type			Danfoss - load sensing
	Steering cylinder, type			Double acting
<b>DRIVE AXLE</b>				
	Manufacturer, type - designation			Kessler D102-PL341 / drive axle with differential and hub reduction
<b>SERVICE BRAKES</b>				
	Type - affected wheels			Oil cooled wet disc brakes (WDB) / drive wheels
<b>PARKING BRAKE</b>				
	Regenerative brake function			30-35% braking with traction motor
	Type - affected wheels			Single dry disc / spring activated - hydraulic release / drive wheels
<b>HYDRAULICS</b>				
	Brand, type			Bosch Rexroth - axial piston variable displacement
<b>HYDRAULIC PRESSURE</b>				
	Load handling function			Load sensing / power on demand
	Max working pressure boom / spreader	MPa		Load-sensing function / power-on-demand / variable piston pumps
	Hydraulic pressure	Lit		23,0
	Hydraulic oil volume			700

Note\*: Data is preliminary and is subject to change.

# Electric Motor Rating\*

Product range	ECG180-330		
	(kW @ rpm)	(kW @ rpm)	(kW @ rpm)
S1 Max Continuous Power @ rated speed	115 @ 4000	130 @ 2000	22 @ 1500
S2 Max Power (60 sec) @ rated speed	242 @ 4000	232 @ 2000	44 @ 1500
Motor brand	Bosch-Rexroth		
Motor designation	EMS1-13L40	EMS1-20F20	EMS1-13F15
Product range	ECG450-500		
	(kW @ rpm)	(kW @ rpm)	(kW @ rpm)
S1 Max Continuous Power @ rated speed	133 @ 6000	130 @ 2000	22 @ 1500
S2 Max Power (60 sec) @ rated speed	358 @ 6000	232 @ 2000	44 @ 1500
Motor brand	Bosch-Rexroth		
Motor designation	EMS1-13L60	EMS1-20F20	EMS1-13F15
Notes*:			
1. Continuous running duty (type S1)			
For a motor suitable to this duty type, the rating at which the machine may be operated for an unlimited period is specified. This class of rating corresponds to the duty type whose appropriate abbreviation is S1.			
DEFINITION – The duty type S1 can be defined as operation at a constant load maintained for sufficient time to allow the machine to reach thermal equilibrium.			
2. Short-time duty (type S2)			
For a motor suitable to this duty type, the rating at which the machine, starting at ambient temperature, may be operated for a limited period is specified. This class of rating corresponds to the duty type whose appropriate abbreviation is S2.			
DEFINITION – The duty type S2 can be defined as operation at constant load for a given time, less than that required to reach thermal equilibrium, followed by a time de-energized and at rest of sufficient duration to re-establish the equilibrium between the machine temperature and that of the coolant temperature. A complete designation provides the abbreviation of the duty type followed by an indication of the duration of the duty (S2 40 minutes).			

# Performance\*

Models			ERG450-60S5	ERG450-60S5M	ERG450-60S5X	Container			ERG450-65S5	ERG450-65S5X	ERG450-65S5XS	ERG450-65S6	ERG450-65S6X	ERG450-65S6H	ERG450-65S6HX	ERG450-65S6HXS	ERG450-70S5X	ERG450-70S5XS
SPEED	Travel speed, forward - reverse	Unloaded	km/h	24 - 24	24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	21 - 21	21 - 21	24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	21 - 21	21 - 21
		At rated load	km/h	24 - 24	24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	24 - 24	21 - 21	24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	21 - 21	21 - 21
POWER	Lifting speed	Unloaded	m/s		0.42			0.42			0.42			0.42			0.42	
		At 50 % of rated load	m/s		0.25			0.25			0.25			0.25			0.25	
SOUND	Lowering speed	Unloaded	m/s		0.36			0.36			0.36			0.36			0.36	
		At rated load	m/s		0.36			0.36			0.36			0.36			0.36	
SOUND	Gradeability, boost function (max)	Unloaded	%	11	10	10	10	10	10	10	10	9	10	9	9	9	10	
		At rated load	%	6	6	6	6	6	6	6	6	5	5	5	5	5	6	
POWER	Gradeability, 1-5km/h (Cont)	Unloaded	%	9	9	9	9	9	9	9	9	8	8	7	7	8	9	
		At rated load	%	5	5	5	5	5	5	5	5	4	5	4	4	4	5	
SOUND	Drawbar pull, max boost		kN	75	75	84	75	84	75	84	75	84	75	84	84	84	84	
	Drawbar pull, max continuous		kN	65	65	72	65	72	65	72	65	72	65	72	72	72	72	
SOUND	Noise level, inside (with EDM*)	EN12053, LpAZ	dB(A)		65 - 67			65 - 67			65 - 67			65 - 67			65 - 67	
	Noise level, outside (with EDM*)	EN12053, LWAZ	dB(A)		99 -102			99 -102			99 -102			99 -102			99 -102	
	Noise level, outside (with EDM*)	2000/14/EC, LWA	dB(A)		100 - 102			100 - 102			100 - 102			100 - 102			100 - 102	

Models			ERG450-60S5	ERG450-60S5M	ERG450-60S5X	Container			ERG450-65S5	ERG450-65S5X	ERG450-65S5XS	ERG450-65S6	ERG450-65S6X	ERG450-65S6H	ERG450-65S6HX	ERG450-65S6HXS	ERG450-70S5X	ERG450-70S5XS
SPEED	Travel speed, forward - reverse	Unloaded	km/h	24 - 24	24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	21 - 21	21 - 21	21 - 21	21 - 21
		At rated load	km/h	24 - 24	24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	21 - 21	21 - 21	21 - 21	21 - 21
POWER	Lifting speed	Unloaded	m/s		0.42			0.42			0.42			0.42			0.42	
		At 50 % of rated load	m/s		0.25			0.25			0.25			0.25			0.25	
SOUND	Lowering speed	Unloaded	m/s		0.36			0.36			0.36			0.36			0.36	
		At rated load	m/s		0.36			0.36			0.36			0.36			0.36	
SOUND	Gradeability, boost function (max)	Unloaded	%	11	10	10	10	10	10	10	10	9	10	9	9	11	11	
		At rated load	%	6	6	6	6	6	6	6	6	6	5	6	5	6	6	
POWER	Gradeability, 1-5km/h (Cont)	Unloaded	%	9	8	8	8	8	8	8	8	8	8	8	8	9	9	
		At rated load	%	5	4	4	4	4	4	4	5	5	5	5	5	5	5	
SOUND	Drawbar pull, max boost		kN	84	84	84	84	84	84	84	84	84	84	84	84	84	84	
	Drawbar pull, max continuous		kN	72	72	72	72	72	72	72	72	72	72	72	72	72	72	
SOUND	Noise level, inside (with EDM*)	EN12053, LpAZ	dB(A)		65 - 67			65 - 67			65 - 67			65 - 67			65 - 67	
	Noise level, outside (with EDM*)	EN12053, LWAZ	dB(A)		99 -102			99 -102			99 -102			99 -102			99 -102	
	Noise level, outside (with EDM*)	2000/14/EC, LWA	dB(A)		100 - 102			100 - 102			100 - 102			100 - 102			100 - 102	

Note\*: Data is preliminary and is subject to change.



# Powertrain<sup>1</sup>

MODELS	Models	DRG450-500	DRG450-450	DRG700-700
Handling types		Toplift S-range	Intermodal C-range	Industrial Z-range
Wheelbase (L3)	mm	6000 - 7500	6000 - 7500	6000 - 7500
Manufacturer - motor / inverter brand		Bosch-Rexroth / eLion 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)		
MOTOR	Traction drive motor, max power (S1 continuous duty) @ rated speed	kW	133	133
	Traction drive motor, max power (S2 short time duty) @ rated speed	kW	358	358
	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	242	242
	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		D102-PL341 / differential + hub reduction	
	Energy consumption, normal driving, average values <sup>2</sup>	kWh/h	45 - 70	45 - 70
	Energy consumption, according EN16796	kWh/h	TBD	TBD
BATTERY	Battery technology / type		Lithium-ion - NMC (LiNiMnCoO <sub>2</sub> )	
	Battery unit, cooling / heating		Water-based cooling / heating	
	Battery nominal capacity	kWh	245	245
	Battery usable capacity	kWh	208	208
	Optional battery capacity	kWh	326 / 407 / 587	326 / 407 / 587
	Optional Battery usable capacity	kWh	261 / 326 / 470	261 / 326 / 470
	System nominal voltage	V	666	666
	Charging inlet capacity (max)	kW	350	350
	Charging inlet standard <sup>3</sup>		CCS1 <sup>3</sup> / CCS2	
	Charging heater 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. USA/CAN: type CCS1 available from 2025.



Cleaner and safer to operate,  
producing zero carbon emissions  
at source.





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