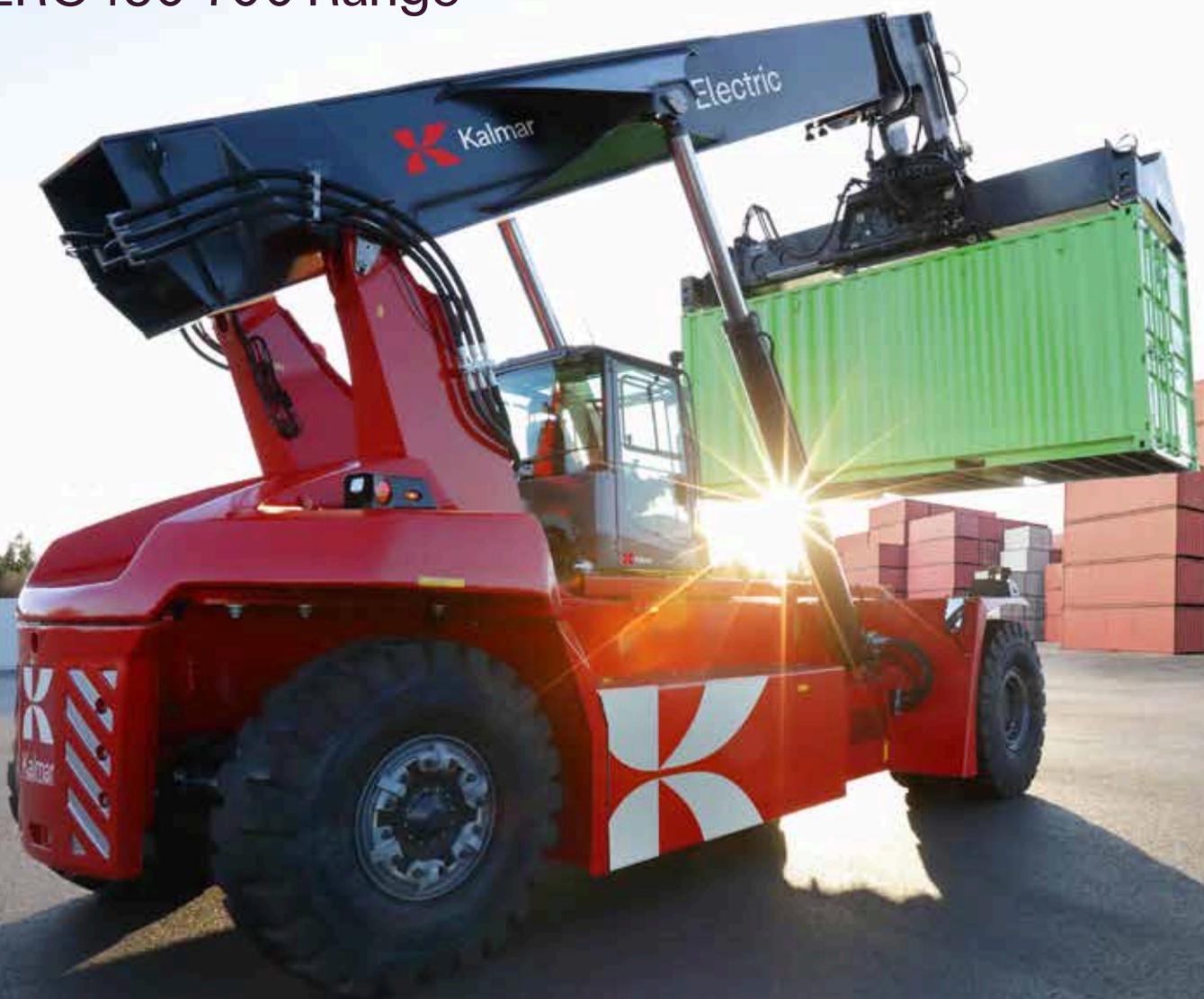




# Electric Reachstacker

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

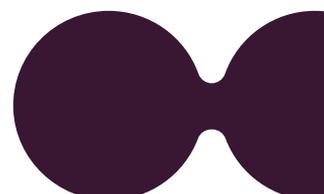
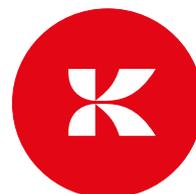
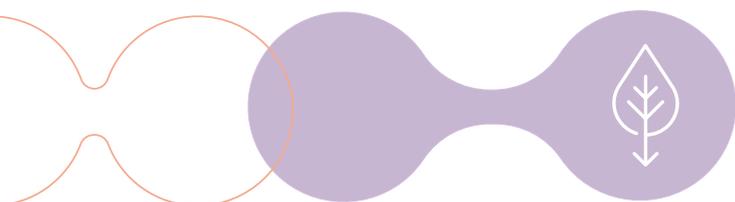
With an electric powered driveline your drivers will notice a big difference with faster and smoother acceleration and more responsive handling while still being able to lift up to 45 tonnes efficiently and safely. Less time will be spent servicing and maintaining your electrically powered reachstacker 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

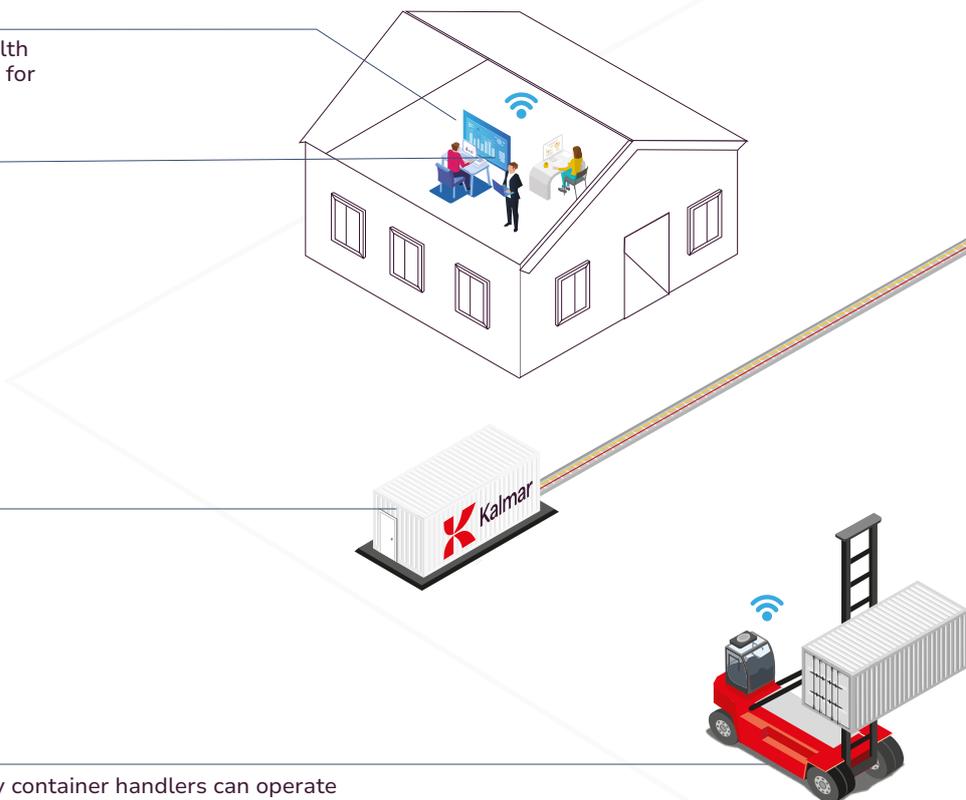
Kalmar's electrical powered forklifts offer a broad range of lifting capacities from 5 to 33 tonnes, a choice of battery solutions and can be used for a variety of material handling applications.

## 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

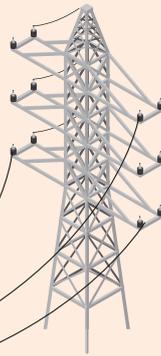
Kalmar's T2 EV electrically powered terminal tractor has been designed specifically for distribution centres and container terminals. There is a choice of different battery solutions designed to meet your operational requirements.



**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.

**Local Grid**



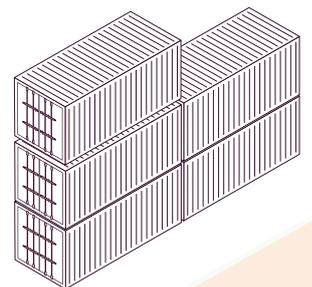
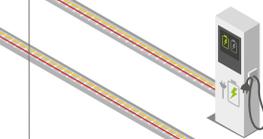
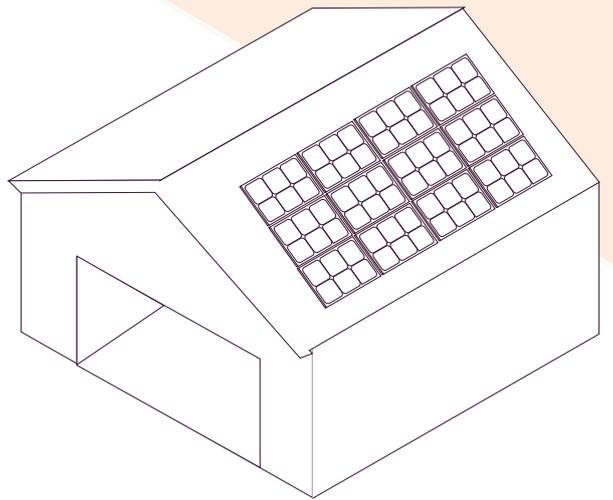
**Site Power Grid**

**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.

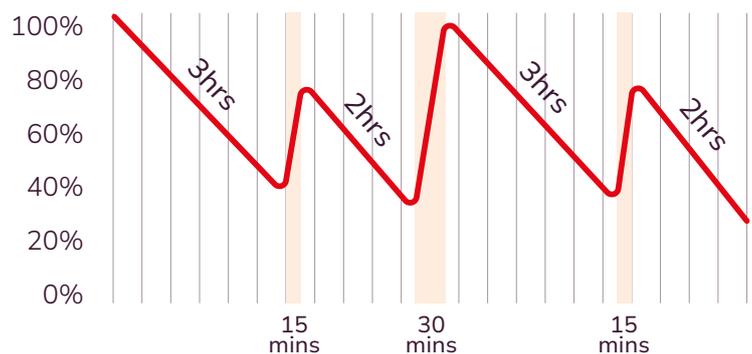
The complete system has been designed to minimise energy losses. With improved battery lifetime, performance and monitoring, energy losses have been minimised allowing for long charging intervals. Regenerative power from the braking system returns power to the batteries, further enhancing the overall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



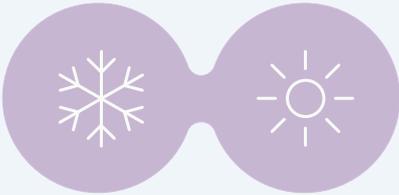
Opportunity charge to match work cycles.

# 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.

## 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.



## 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			
	Auxillary motor, manufacturer - type designation		BoschRexroth / EMS1H 13B15			
	Auxiliary motor capacity, rated continuous - max	kW	23 - 50			
Energy consumption	kWh/h	40 - 68				
BATTERY	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.



# 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 rearward 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 harm's way at all times.



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



**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 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.



**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.

\* Cannot suppress a battery fire

\*\* This option will be available soon.



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



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

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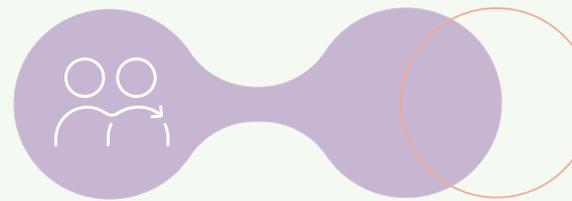
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# Designed for the driver

## 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

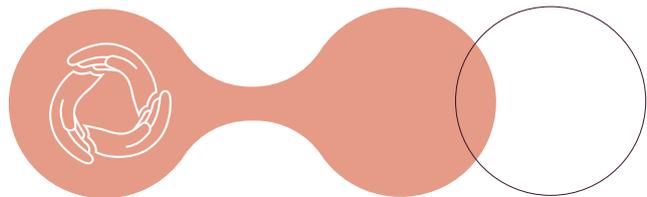
To keep your business moving Kalmar Services offers a range of services that can help you keep your equipment moving optimally.

## 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.

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

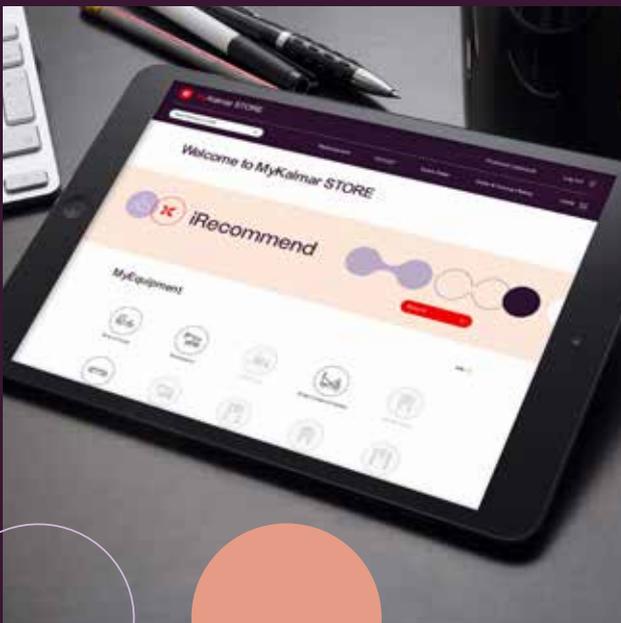
● Included    ● Optional

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 MyParts

Kalmar MyParts 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, MyParts 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. MyParts has been designed to make your life easier.

# 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.

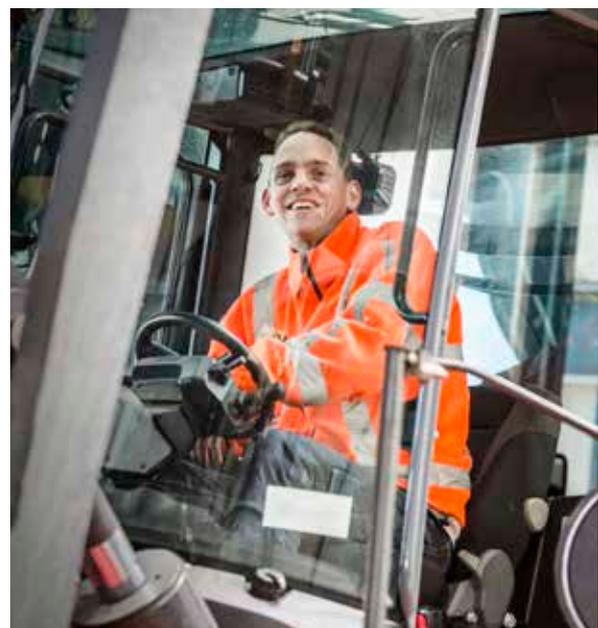


\*Installation costs and/or an annual subscription fee may apply.

# 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 optimize 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

## Lifting Boom

- Strong, durable box-type boom with guide pads
- Boom with 2 lift cylinders & 1 extension cylinder

## Attachment

- Top Lift (S), 45 tons, 20'-40', MPS, TWL, 4 lift hooks, sideshift and rotation
- Combi Lift (C), 45 tons, 20'-30'-40', HPS, TWL, 4 lift legs, 4 hooks, end tilt+lock, sideshift & rotation
- S-C = 4 floating twistlocks, LED indication lamps and 2 LED work lamps
- S-C = Safety locking, alignment pins (4x) and sensors (4x)
- S-C = Rotation +195/-105 deg (2 motors and 2 brakes)
- S-C = Lift hooks for slings on end beams (4x)
- S = Mechanical Pile Slope MPS ±5 deg
- C = Hydraulic Pile Slope HPS ±5 deg
- Large sideshift (S-C = ±800 mm)

## Electrical System 24V

- Battery box 2x12V (24V) & main power switch
- Electric service box on chassis (LHS)
- 2 LED head lights on front fenders (one beam)
- 2 LED working lights on boom
- 2 LED working lights on front edge cabin
- 2 LED rear lights on fenders (when reversing)
- 2 LED working lights on attachment (S + C + A)
- 2 LED position lights on each side
- 2 LED tail lights / brake LED-lights
- 4 LED blinker lights (front-rear/left-right)
- 2 LED flashing brake lights (when reversing)
- 1 LED rotating warning beacon
- 1 acoustic signal / reverse alarm (in reverse)
- Speed limitation outside transport mode
- Power battery volt level

## Cabin (EGO)

### Structure

- Spacious, modern cabin with good ergonomics
- Large windows, good visibility, in all directions
- Manual moveable cabin (stroke 2375 mm)
- Step for roof access
- Instep handle (left side)
- Sliding window on both sides
- Doors with air damper and key lock (L + R)
- Tinted laminated windows

### Comfort

- Comfort seat Kalmar, mechanical spring, high back
- Adjustable armrest (RHS) & 2-point safety belt
- Inside rear view mirror (right side)
- Interior lights with fade away function
- Fully adjustable steering wheel incl tilt function
- Fully adjustable colour display
- Electric adjustable operational console with joystick, operational buttons & armrest (RHS)
- Power steering wheel with steer knob
- Electric horn
- LED background light for buttons & switches

### Safety

- Colour display TFT-7" (17 cm), inside cabin
- Reverse camera, 1x, rear on counter weight
- Speed limit outside transport mode

### Controls

- Joystick for boom, spreader & forward / reverse
- Auto rev-up accelerator at lifting/extension
- Electric accelerator for driving
- Double brake pedals (L + R)
- Button for electronic hand brake (on/off)
- Safety override for hydraulic functions (by code)
- Multi-function lever (LHS) horn, gear/direction switch, high/low beam
- Warning - hand brake (on/off) leaving seat
- Hour meter

### Climate

- ECC, electronic climate control, powerful cooler, heater and ventilator
- Air-condition incl. fresh air and recirculation filter
- Wipers/washers: dual wipers on front window, single wipers on rear and roof windows
- Interval wiper functions on front, rear and roof

## 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)
- 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

# Options\*

Kalmar ERG450S-450S (S = Container - Top Lift)  
Kalmar ERG450C-450C (C = Intermodal - Combi Lift)  
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 Twt 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)

## Cabin

### Structure

- Hydraulic sliding cabin (stroke 2375 mm), anti-collision function, avoid load hitting cabin
- Hydraulic elevating cab (stroke 2300 mm) position forward on right side
- Speed limitation depending on cabin position
- Extended rear cabin window 100mm

### Comfort

- Seat with air-cushion, heating & 3-p belt
- Seat cover in vinyl
- Head rest for the seat
- Armrest with adjustment (LHS)
- Horizontal dampening/suspension of seat
- Grammer Actimo XL, air-cushion, heat, 3-p belt
- Isringhausen 6830KA/870, air-cush, heat, 3-p belt
- Extra trainer seat incl 2-p safety belt (LHS)
- Bracket for terminal and monitor (RHS)
- Write pad, A4 paper box & reading lamp (RHS)
- Extra rear-view mirror inside cabin

### Controls

- Lever steering incl switch for forward/reverse
- Mini-wheel steering incl F-N-R switch
- Override key switch
- EGO joystick

### Climate

- Sun visor front-roof-rear windows (of black net)
- Sun visor roof window (of reflecting film)

## 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 center 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)

## 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

# Specifications\*

		Models		ERG450-60S5	ERG450-60S5M	ERG450-60S5X	
MODEL LIFTING CAPACITY					Container		
		Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3- Q4	tons	45 - 27 - 13	45 - 30 - 15	45 - 35 - 18
		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	1965 - 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	5/5 - 5/4 - 4/3
		Lost load centre, to front face of tyres	X	mm	835	835	935
	Wheelbase	L3	mm	6000	6000	6000	
WEIGHTS		Service weight, standard truck		kg	70900	72900	81000
		Axle load, front at load centre L4, unloaded - loaded	(no jacks)	kg	37100 - 103100	37100 - 103100	38100 - 104100
		Axle load, front at load centre L5, unloaded - loaded	(no jacks)	kg	41500 - 89400	41500 - 93700	42700 - 105400
		Axle load, rear at load centre L4, unloaded - loaded		kg	33800 - 12800	35800 - 14800	42900 - 21900
		Axle load, rear at load centre L5, unloaded - loaded		kg	29400 - 8500	31400 - 8200	38300 - 10600
DIMENSIONS		Boom angle, min - max		deg	0 - 60	0 - 60	0 - 60
		Boom height, min - max	H3 - H5	mm	4600 - 18200	4600 - 18200	4700 - 18300
		Chassis height - top of boom fixation, max	H2	mm	3925	3925	4025
		Lift height, max	H4	mm	15100	15100	15200
		Boom reach stroke		mm	7000	7000	7000
		Truck height - seat height	H6 - H8	mm	4600 - 2575	4600 - 2575	4700 - 2675
		Overall truck length with boom	L	mm	11200	11200	11200
		Truck width over drive axle	B	mm	4150	4150	4150
		Spreader sideshift	V1	mm	±/-800 (1600)	±/-800 (1600)	±/-800 (1600)
		Spreader rotation		deg	±195/-105	±195/-105	±195/-105
		Ground clearance	min	mm	250	250	300
		Aisle width with 20'-40' container	A1 - A2	mm	11200 - 13600	11200 - 13600	11200 - 13600
		Turning radius, outer with 20'-40' container (at 90 degree turn)	R1 - R3	mm	8100 - 9400	8100 - 9400	8100 - 9400
	Turning radius, outer (at 90 degree turn)	R1	mm	-	-	-	
WHEELS	<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	18.00×25"	18.00×25"	18.00×33"
	<b>Rims</b>	Dimensions, front - rear		tum	13.00×25"/2.5	13.00×25"/2.5	13.00×33"/2.5
	Track width (front - rear)	S1 - S2	mm	3030 - 2600	3030 - 2600	3030 - 2800	
AXLES	<b>Steer axle</b>	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		
		Regenerative brake function			30-35% braking with traction motor		
<b>Parking brake</b>	Type - affected wheels			Single dry disc / spring activated - hydraulic release / drive wheels			
HYDRAULICS	<b>Hydraulics</b>	Brand, type			Bosch Rexroth - axial piston variable displacement		
		Load handling function			Load sensing / power on demand		
	<b>Oil pressure</b>	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.

ERG450-65S5	ERG450-65S5X	ERG450-65S5XS	ERG450-65S6	ERG450-65S6X	ERG450-65S6H	ERG450-65S6HX	ERG450-65S6HXS
<b>Container</b>							
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
		45 - 41 - 29					45 - 41 - 29 - 18
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
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
835	935	935	835	935	835	935	935
6500	6500	6500	6500	6500	6500	6500	6500
73000	79800	83800	74000	81000	77000	86000	86000
37500 - 101900	37500 - 101900	41000 - 105400	38500 - 105000	39000 - 105500	41500 - 112800	44000 - 115300	45000 - 116300
41500 - 96400	41700 - 107500	43300 - 111100	42000 - 96900	42700 - 108400	43500 - 100100	46300 - 113800	47300 - 114800
35500 - 16100	42300 - 22900	42800 - 23400	35500 - 14000	42000 - 20500	35500 - 9200	42000 - 15700	41000 - 15700
31500 - 8600	38100 - 10300	38500 - 10700	32000 - 9100	38300 - 10600	33500 - 9900	39700 - 11200	39700 - 11200
0 - 60	0 - 60	0 - 60	0 - 62	0 - 62	0 - 63	0 - 63	0 - 63
4600 - 18200	4700 - 18300	4700 - 18300	4500 - 19250	4600 - 19350	4700 - 20800	4700 - 20900	4700 - 20900
3925	4025	4025	3925	4025	3925	3925	3925
15100	15200	15100	16200	16300	17700	17800	17800
7000	7000	7000	7700	7700	8500	8500	8500
4600 - 2575	4700 - 2675	4700 - 2675	4500 - 2575	4600 - 2675	4700 - 2575	4700 - 2675	4700 - 2675
11700	11700	11700	12000	12000	12700	12700	12700
4150	4150	4150	4150	4150	4150	4150	4150
==+/-800 (1600)	==+/-800 (1600)	==+/-800 (1600)	==+/-800 (1600)	==+/-800 (1600)	==+/-800 (1600)	==+/-800 (1600)	==+/-800 (1600)
==+195/-105	==+195/-105	==+195/-105	==+195/-105	==+195/-105	==+195/-105	==+195/-105	==+195/-105
250	300	300	250	300	250	300	300
11600 - 13600	11600 - 13600	11600 - 13600	11900 - 13900	11900 - 13900	12300 - 14150	12300 - 14150	12300 - 14150
8500 - 9400	8500 - 9400	8500 - 9400	8500 - 9450	8500 - 9450	8600 - 9450	8600 - 9450	8600 - 9450
-	-	-	-	-	-	-	-
4 - 2							
Diagonal / 1.0							
18.00×25"	18.00×33"	18.00×33"	18.00×25"	18.00×33"	18.00×25"	18.00×33"	18.00×33"
13.00×25"/2.5	13.00×33"/2.5	13.00×33"/2.5	13.00×25"/2.5	13.00×33"/2.5	13.00×25"/2.5	13.00×33"/2.5	13.00×33"/2.5
3030 - 2600	3030 - 2800	3030 - 2800	3030 - 2600	3030 - 2800	3030 - 2600	3030 - 2800	3030 - 2800
Electro-hydraulic servo - steering wheel with orbitrol							
Hydraulic power assisted							
Steering wheel orbitrol and optional joystick control / mini wheel							
Danfoss - load sensing							
Double acting							
Kessler D102-PL341 / drive axle with differential and hub reduction							
Oil cooled wet disc brakes (WDB) / drive wheels							
30-35% braking with traction motor							
Single dry disc / spring activated - hydraulic release / drive wheels							
Bosch Rexroth - axial piston variable displacement							
Load sensing / power on demand							
Load-sensing function / power-on-demand / variable piston pumps							
23.0							
700							

# Specifications\*

Models

				ERG450-70S5X	ERG450-70S5XS	ERG450-70S6HXS
MODEL LIFTING CAPACITY				Container		
	Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3- Q4	tons	45 - 41 - 23	45 - 41 - 23	45 - 41 - 23 -14
	Lift capacity, row 1-2-3-4 (with jacks)	Q1 - Q2 - Q3- Q4	tons	-	45 - 41 - 31	45 - 41 - 31 -19
	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
	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
	Lost load centre, to front face of tyres	X	mm	935	935	935
	Wheelbase	L3	mm	7000	7000	7000
WEIGHTS	Service weight, standard truck		kg	82300	82800	87900
	Axle load, front at load centre L4, unloaded - loaded	(no jacks)	kg	40000 - 103000	40600 - 103600	45100 - 114500
	Axle load, front at load centre L5, unloaded - loaded	(no jacks)	kg	44000 - 112800	44600 - 13600	47200 - 116000
	Axle load, rear at load centre L4, unloaded - loaded		kg	42300 - 24300	42200 - 24200	42800 - 18400
	Axle load, rear at load centre L5, unloaded - loaded		kg	38300 - 10500	38200 - 10300	40700 - 12900
DIMENSIONS	Boom angle, min - max		deg	0 - 60	0 - 60	0 - 63
	Boom height, min - max	H3 - H5	mm	4700 - 18300	4700 - 18300	4700 - 20900
	Chassis height - top of boom fixation, max	H2	mm	4050	4050	4050
	Lift height, max	H4	mm	15100	15100	17800
	Boom reach stroke		mm	7000	7000	8500
	Truck height - seat height	H6 - H8	mm	4700 - 2675	4700 - 2675	4700 - 2675
	Overall truck length with boom	L	mm	12200	12200	13200
	Truck width over drive axle	B	mm	4150	4150	4150
	Spreader sideshift	V1	mm	±/-800 (1600)	±/-800 (1600)	±/-800 (1600)
	Spreader rotation		deg	±+195/-105	±+195/-105	±+195/-105
	Ground clearance	min	mm	300	300	300
	Aisle width with 20'-40' container	A1 - A2	mm	12100 - 13600	12100 - 13600	12800 - 14350
	Turning radius, outer with 20'-40' container (at 90 degree turn)	R1 - R3	mm	9000 - 9400	9000 - 9400	9000 - 9450
Turning radius, outer (at 90 degree turn)	R1	mm	-	-	-	
WHEELS	<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		18.00×33"	
	<b>Rims</b>	Dimensions, front – rear	tum		13.00×33/2.5	
		Track width (front - rear)	S1 - S2	mm		3030 - 2800
AXLES	<b>Steer axle</b>	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		
		Regenerative brake function		30-35% braking with traction motor		
<b>Parking brake</b>	Type – affected wheels		Single dry disc / spring activated - hydraulic release / drive wheels			
HYDRAULICS	<b>Hydraulics</b>	Brand, type		Bosch Rexroth - axial piston variable displacement		
		Load handling function		Load sensing / power on demand		
	<b>Oil pressure</b>	Max working pressure boom / spreader	MPa	Load-sensing function / power-on-demand / variable piston pumps		
		Hydraulic pressure	Lit	23.0		
	Hydraulic oil volyme		700			

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

ERG450-75S5XS	ERG450-75S6HXS	ERG450-60C5	ERG450-60C5X	ERG450-65C5	ERG450-65C5X	ERG450-65C5XS
Container		Intermodal		Intermodal		
45 - 45 - 26	45 - 45 - 27 - 17	45 - 25 - 10	45 - 32 - 15	45 - 28 - 13	45 - 34 - 17	45 - 34 - 17
45 - 45 - 34	45 - 45 - 35 - 23	-	-	-	-	45 - 38 - 24
1865 - 3815 - 6315	2865 - 3815 - 6315 - 8815	1965 - 3815 - 6315	1865 - 3815 - 6315	1965 - 3815 - 6315	1865 - 3815 - 6315	
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
935	935	835	935	835	935	935
7500	7500	6000	6000	6500	6500	6500
85900	90700	77000	85300	77600	84800	87000
42500 - 104300	46400 - 114200	43500 - 109500	44500 - 110500	44100 - 108500	44900 - 109300	47000 - 111400
46300 - 119800	48500 - 122000	49200 - 93600	50500 - 107900	49400 - 97400	50500 - 109300	52700 - 111500
43400 - 26600	44300 - 21500	33500 - 12500	40800 - 19800	33500 - 14100	39900 - 20500	40000 - 20600
39600 - 11100	42200 - 13700	27800 - 8400	34800 - 9400	28200 - 8200	34300 - 9500	34300 - 9500
0 - 58	0 - 61	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60
4750 - 18400	4750 - 21000	4600 - 18200	4600 - 18500	4600 - 18200	4700 - 18300	4700 - 18300
4025	4025	3925	4050	3925	3925	3925
15200	17800	14900	15000	14900	15000	14900
7000	8500	7000	7000	7000	7000	7000
4750 - 2675	4750 - 2675	4600 - 2575	4600 - 2675	4600 - 2575	4700 - 2675	4700 - 2675
12700	13700	11200	11200	11700	11700	11700
4150	4150	4150	4150	4150	4150	4150
≈±800 (1600)	≈±800 (1600)	≈±800 (1600)	≈±800 (1600)	≈±800 (1600)	≈±800 (1600)	≈±800 (1600)
≈±195/-105	≈±195/-105	≈±195/-105	≈±195/-105	≈±195/-105	≈±195/-105	≈±195/-105
300	300	250	300	250	300	300
12500 - 13600	13100 - 14350	11200 - 13600	11200 - 13600	11600 - 13600	11600 - 13600	11600 - 13600
9400 - 11400	9400 - 9500	8000 - 9400	8100 - 9400	8500 - 9400	8500 - 9400	8500 - 9400
-	-	-	-	-	-	-
4 - 2						
Diagonal / 1.0						
18.00×33"		18.00×25"	18.00×33"	18.00×25"	18.00×33"	18.00×33"
13.00×33"/2.5		13.00×25"/2.5	13.00×33"/2.5	13.00×25"/2.5	13.00×33"/2.5	13.00×33"/2.5
3030 - 2800		3030 - 2800		3030 - 2800	3030 - 2600	3030 - 2800
Electro-hydraulic servo - steering wheel with orbitrol						
Hydraulic power assisted						
Steering wheel orbitrol and optional joystick control / mini wheel						
Danfoss - load sensing						
Double acting						
Kessler D102-PL341 / drive axle with differential and hub reduction						
Oil cooled wet disc brakes (WDB) / drive wheels						
30-35% braking with traction motor						
Single dry disc / spring activated - hydraulic release / drive wheels						
Bosch Rexroth - axial piston variable displacement						
Load sensing / power on demand						
Load-sensing function / power-on-demand / variable piston pumps						
23.0						
700						

# Specifications\*

		Models		ERG450-70C5X	ERG450-70C5XS	ERG450-75C5XS	
MODEL LIFTING CAPACITY				Intermodal			
		Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3- Q4	tons	45 - 38 - 20	45 - 38 - 20	45 - 43 - 24
		Lift capacity, row 1-2-3-4 (with jacks)	Q1 - Q2 - Q3- Q4	tons	-	45 - 38 - 27	45 - 45 - 32
		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	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
		Wheelbase	L3	mm	7000	7000	7500
WEIGHTS		Service weight, standard truck		kg	86800	88300	91900
		Axle load, front at load centre L4, unloaded - loaded	(no jacks)	kg	46000 - 109000	47500 - 110500	48500 - 110300
		Axle load, front at load centre L5, unloaded - loaded	(no jacks)	kg	51300 - 115100	52800 - 116600	53500 - 123700
		Axle load, rear at load centre L4, unloaded - loaded		kg	40800 - 22800	40800 - 22800	43400 - 26600
		Axle load, rear at load centre L5, unloaded - loaded		kg	35500 - 9700	35500 - 9700	38400 - 11200
DIMENSIONS		Boom angle, min - max		deg	0 - 60	0 - 60	0 - 58
		Boom height, min - max	H3 - H5	mm	4700 - 18300	4700 - 18300	4750 - 18400
		Chassis height - top of boom fixation, max	H2	mm	4050	4050	4050
		Lift height, max	H4	mm	14900	14900	15000
		Boom reach stroke		mm	7000	7000	7000
		Truck height - seat height	H6 - H8	mm	4700 - 2675	4700 - 2675	4750 - 2700
		Overall truck length with boom	L	mm	12200	12200	12700
		Truck width over drive axle	B	mm	4150	4150	4150
		Spreader sideshift	V1	mm	±/-800 (1600)	±/-800 (1600)	±/-800 (1600)
		Spreader rotation		deg	±195/-105	±195/-105	±195/-105
		Ground clearance	min	mm	300	300	300
		Aisle width with 20'-40' container	A1 - A2	mm	12100 - 13600	12100 - 13600	12500 - 13600
		Turning radius, outer with 20'-40' container (at 90 degree turn)	R1 - R3	mm	9000 - 9400	9000 - 9400	9400 - 9400
		Turning radius, outer (at 90 degree turn)	R1	mm	-	-	-
WHEELS	<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		
AXLES	<b>Steer axle</b>	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		
		Regenerative brake function			30-35% braking with traction motor		
<b>Parking brake</b>	Type – affected wheels			Single dry disc / spring activated - hydraulic release / drive wheels			
HYDRAULICS	<b>Hydraulics</b>	Brand, type			Bosch Rexroth - axial piston variable displacement		
		Load handling function			Load sensing / power on demand		
	<b>Oil pressure</b>	Max working pressure boom / spreader		MPa	Load-sensing function / power-on-demand / variable piston pumps		
		Hydraulic pressure		Lit	23,0		
		Hydraulic oil volyme			700		

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

# Electric Motor Rating\*

ERG700-75ZX	ERG700-75ZXS
<b>Lift Hook</b>	
70-60-45-30-22	70-60-45-30-22
	70-60-45-39 -28
1500 - 2000 - 4000 - 6000 - 8000	
-	-
935	935
7500	7500
77500	78500
33100 - 125800	34100 - 126800
-	
44400 - 21700	44400 - 21700
-	
0 - 58	0 - 58
4750 - 18400	4750 - 18400
4050	4050
15300	15300
7000	7000
4750 - 2675	4750 - 2675
11900	11900
4150	4150
-	-
360 / 360 (endless)*	360 / 360 (endless)*
300	300
-	-
-	-
9400	9400
4 – 2	
Diagonal / 1.0	
18.00×33"	
13.00×33"/2.5	
3030 - 2800	
Electro-hydraulic servo - steering wheel with orbitrol	
Hydraulic power assisted	
Steering wheel orbitrol and optional joystick control / mini wheel	
Danfoss - load sensing	
Double acting	
Kessler D102-PL341 / drive axle with differential and hub reduction	
Oil cooled wet disc brakes (WDB) / drive wheels	
30-35% braking with traction motor	
Single dry disc / spring activated - hydraulic release / drive wheels	
Bosch Rexroth - axial piston variable displacement	
Load sensing / power on demand	
Load-sensing function / power-on-demand / variable piston pumps	
23,0	
700	

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
				<b>Container</b>		
SPEED	Travel speed, forward - reverse	Unloaded	km/h	24 - 24	24 - 24	21 - 21
		At rated load	km/h	24 - 24	24 - 24	21 - 21
	Lifting speed	Unloaded	m/s	0,42		
		At 50 % of rated load	m/s	0,25		
	Lowering speed	Unloaded	m/s	0,36		
		At rated load	m/s	0,36		
POWER	Gradeability, boost function (max)	Unloaded	%	11	10	10
		At rated load	%	6	6	6
	Gradeability, 1-5km/h (Cont)	Unloaded	%	9	9	9
		At rated load	%	5	5	5
	Drawbar pull, max boost		kN	75	75	84
	Drawbar pull, max continuous		kN	65	65	72
SOUND	Noise level, inside (with EDM*)	EN12053, LpAZ	dB(A)	65 - 67		
	Noise level, outside (with EDM*)	EN12053, LWAZ	dB(A)	99 -102		
	Noise level, outside (with EDM*)	2000/14/EC, LWA	dB(A)	100 - 102		

Models				ERG450-70S6HXS	ERG450-75S5XS	ERG450-75S6HXS
				<b>Container</b>		
SPEED	Travel speed, forward - reverse	Unloaded	km/h	21 - 21	21 - 21	21 - 21
		At rated load	km/h	21 - 21	21 - 21	21 - 21
	Lifting speed	Unloaded	m/s	0,42		
		At 50 % of rated load	m/s	0,25		
	Lowering speed	Unloaded	m/s	0,36		
		At rated load	m/s	0,36		
POWER	Gradeability, boost function (max)	Unloaded	%	9	10	9
		At rated load	%	6	6	5
	Gradeability, 1-5km/h (Cont)	Unloaded	%	8	8	8
		At rated load	%	5	4	5
	Drawbar pull, max boost		kN	84	84	84
	Drawbar pull, max continuous		kN	72	72	72
SOUND	Noise level, inside (with EDM*)	EN12053, LpAZ	dB(A)	65 - 67		
	Noise level, outside (with EDM*)	EN12053, LWAZ	dB(A)	99 -102		
	Noise level, outside (with EDM*)	2000/14/EC, LWA	dB(A)	100 - 102		

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



ERG450-65S5	ERG450-65S5X	ERG450-65S5XS	ERG450-65S6	ERG450-65S6X	ERG450-65S6H	ERG450-65S6HX	ERG450-65S6HXS	ERG450-70S5X	ERG450-70S5XS
Container								Container	
24 - 24	21 - 21	21 - 21	24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	21 - 21	21 - 21
24 - 24	21 - 21	21 - 21	24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	21 - 21	21 - 21
0,42				0,42				0,42	
0,25				0,25				0,25	
0,36				0,36				0,36	
0,36				0,36				0,36	
10	10	10	10	9	10	9	9	9	10
6	6	6	6	5	5	5	5	5	6
9	9	8	9	8	8	7	7	8	9
5	5	5	5	4	5	4	4	4	5
75	85	84	75	84	75	84	84	84	84
65	73	72	65	72	65	72	72	72	72
65 - 67				65 - 67				65 - 67	
99 -102				99 -102				99 -102	
100 - 102				100 - 102				100 - 102	

ERG450-60C5	ERG450-60C5X	ERG450-65C5	ERG450-65C5X	ERG450-65C5XS	ERG450-70C5X	ERG450-70C5XS	ERG450-75C5XS	ERG700-75ZX	ERG700-75ZXS
Intermodal		Intermodal			Intermodal			Lift Hook	
24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	21 - 21	21 - 21	21 / 21	21 - 21	21 - 21
24 - 24	21 - 21	24 - 24	21 - 21	21 - 21	21 - 21	21 - 21	21 / 21	21 - 21	21 - 21
0,42		0,42			0,42			0,42	
0,25		0,25			0,25			0,25	
0,36		0,36			0,36			0,36	
0,36		0,36			0,36			0,36	
10	10	9	10	9	9	9	9	11	11
5	6	5	6	6	6	6	5	6	6
8	8	7	8	8	8	8	8	9	9
5	5	4	5	5	5	5	5	5	5
75	85	75	84	84	84	84	84	84	84
65	72	65	72	72	72	72	72	72	72
65 - 67		65 - 67			65 - 67			65 - 67	
99 -102		99 -102			99 -102			99 -102	
100 - 102		100 - 102			100 - 102			100 - 102	



# Powertrain<sup>1</sup>

MODELS	Models		DRG450-500	DRG450-450	DRG700-700
		Handling types		Toplift S-range	Intermodal C-Range
	Wheelbase (L3)	mm	6000 - 7500	6000 - 7500	6000 - 7500
MOTOR	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)		
	Traction drive motor, max power (S1 continuous duty) @ rated speed	kW	133	133	133
	Traction drive motor, max power (S2 short time duty) @ rated speed	kW	358	358	358
	Hydraulic pump motor, max power (S1 continuous duty) @ rated speed	kW	130	130	130
Hydraulic pump motor, max power (S2 short time duty) @ rated speed	kW	242	242	242	
Auxiliary motor, max power (S1 continuous duty) @ rated speed	kW	22	22	22	
Auxiliary motor, max power (S2 short time duty) @ rated speed	kW	44	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	45 - 70
	Energy consumption, according EN16796	kWh/h	TBD	TBD	TBD
BATTERY	Battery technology / type		Lithium-Ion - NMC (LiNiMnCoO2)		
	Battery unit, cooling / heating		Water-based cooling / heating		
	Battery nominal capacity	kWh	245	245	245
	Battery usable capacity	kWh	208	208	208
	Optional battery capacity	kWh	326 / 407 / 587	326 / 407 / 587	326 / 407 / 587
	Optional Battery usable capacity	kWh	261 / 326 / 470	261 / 326 / 470	261 / 326 / 470
	System nominal voltage	V	666	666	666
	Charging inlet capacity (max)	kW	350	350	350
	Charging inlet standard <sup>3</sup>		CCS1 <sup>3</sup> / CCS2		
	Charging heather connection	A	400V / 32A / 3-PHASE / NE		
Control system battery, voltage – capacity	(V / Ah)	2x12 / 135-145			

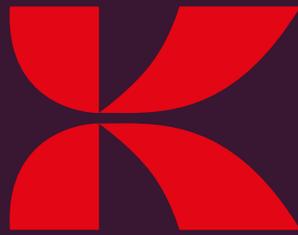
## Notes:

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.



**Cleaner and safer to operate,  
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at source.**





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