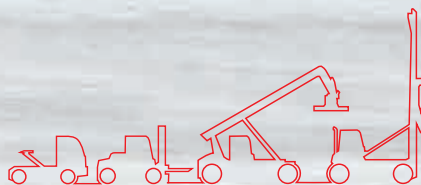


# Quality for all.

The Kalmar DRU450  
Essential Reachstacker.



Kalmar Essential Range







# More for your money.

The Kalmar Essential Reachstacker gives you more for your money without compromising on quality.

Built on our G-Generation platform you get a machine that is reliable, robust, highly efficient and is available with either EU3 / Tier 3, EU4 / Tier 4F or EU5\* emissions standards compliant engines.



Our Essential Range is built on our proven and tested G-Generation platform and the experience of building over 10,000 reachstackers. Your drivers will benefit from common electronics and controls across the entire range for ease of operation.



With easily accessible service points and extended servicing periods, maintenance tasks will be quicker and easier to perform. Increasing your machine availability.



Our new Essential Cabin has been ergonomically designed so everything is in easy reach for your drivers. You get a choice of joysticks, either will increase operational safety and control, as all movements can be managed from one point.

## A complete line-up.

The Kalmar Essential Reachstacker, joins our Gloria and heavy lifting range to give you the broadest choice of reachstackers in the market. Our Essential Range will give you everything you need to get the job done efficiently at a great price, if you need more choice or a greater range of attachments or options you should consider our Gloria Range of reachstackers.

\* Available 2019/20.



# Built on a proven platform.

With 1000s of machines built on our proven G-Generation platform you can expect a reachstacker that is ready to take on any task.

## Additional benefits of a common platform.

**A standardised driver control panel:** all machines built on this platform have the same operator controls and interface, making it easier to move from one type of machine to another.

**Common electrical systems:** uses standardised error codes for fast and easy trouble shooting.

**Common points of connection:** to make it easier for data to pass from your machine to external reporting systems, to Kalmar Insight or your own system.

**Increased availability:** common platforms, mean more common parts, which has helped us increase parts availability through Kalmar MyParts, our 24/7 parts portal.

## With Kalmar quality built in.

With Kalmar you should only expect the best, as our focus is on building a machine that will offer superior safety, driver comfort and be highly reliable.



Each of our machines has been designed to exceed the ISO 22915 standards, so you get a very safe and stable machine to operate.



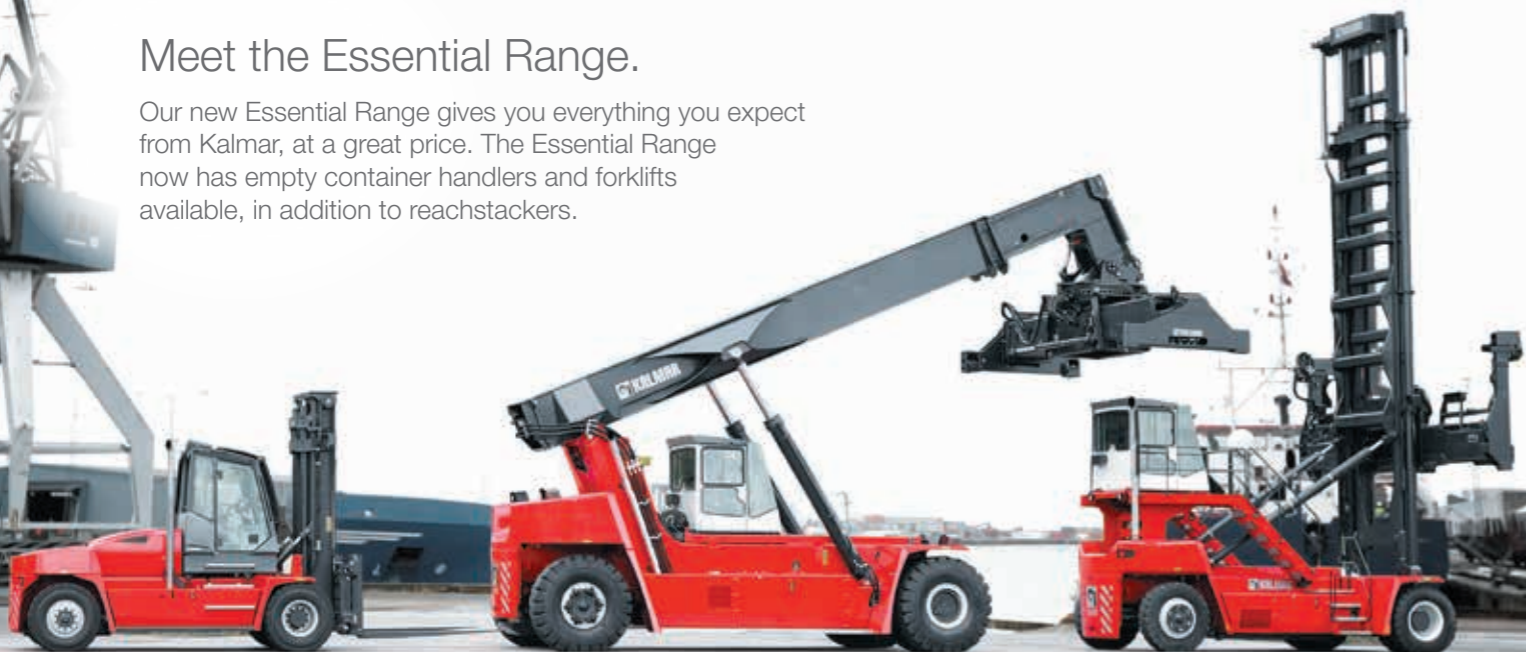
We go to great lengths to choose and test all the components used to build our reachstackers, which are only supplied from leading manufacturers, to guarantee their quality and performance.



To avoid corrosion we treat all sensitive surfaces, steps, platforms, exhaust pipes, nuts and bolts, with long-life surface coatings or highly corrosion resistant material.

## Meet the Essential Range.

Our new Essential Range gives you everything you expect from Kalmar, at a great price. The Essential Range now has empty container handlers and forklifts available, in addition to reachstackers.





# Highly efficient.

Our Essential Reachstacker comes fitted with load sensing hydraulics and there is a range of the latest generation of engines and transmissions to choose from. You will get a highly efficient and powerful machine that uses less fuel, produces less emissions, costing you less, while maintaining productivity.

Our Load Sensing Hydraulic systems measures your load and then generates the required amount of power to lift or lower it efficiently. Delivering you the power you need while reducing the energy consumed.

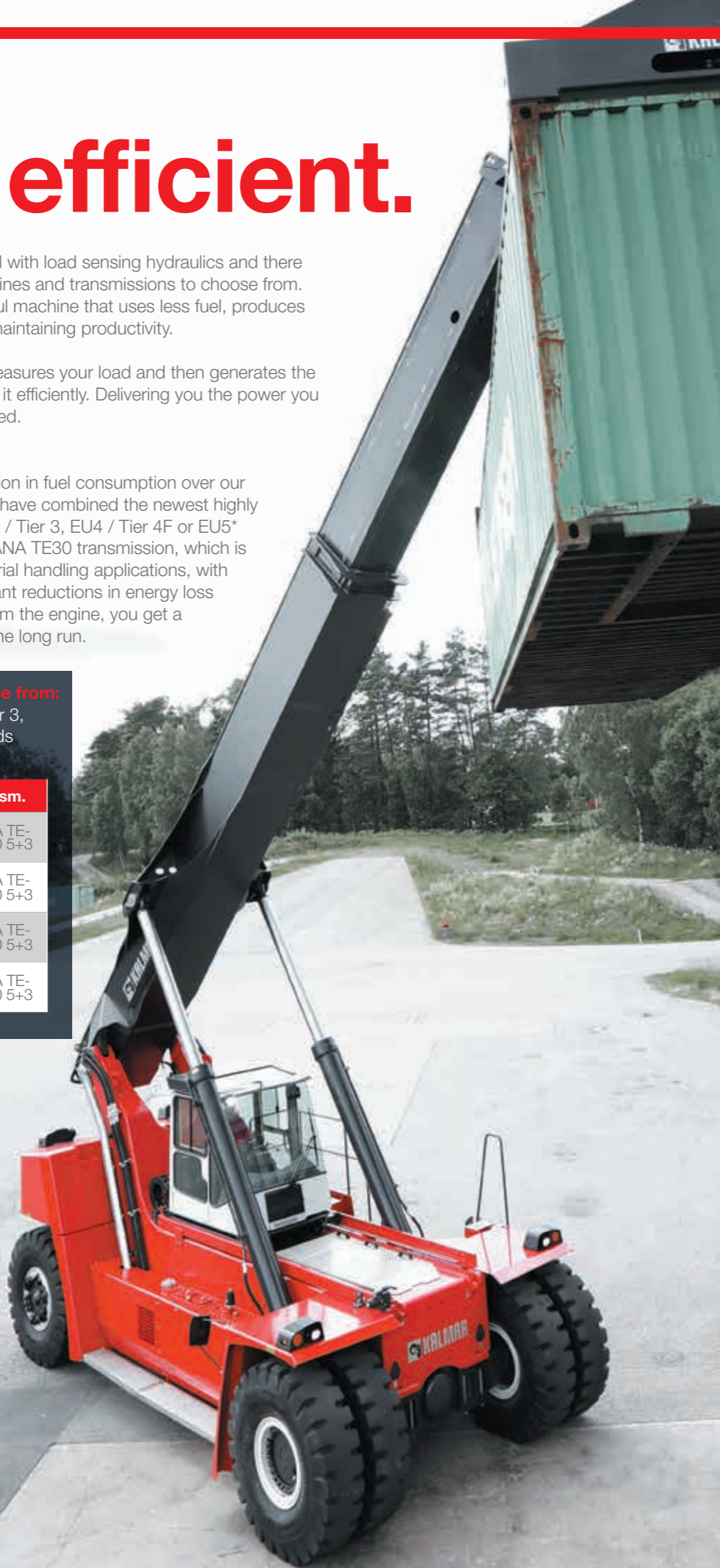
## Use less fuel.

You will benefit from up to a 10% reduction in fuel consumption over our previous generation of machines, as we have combined the newest highly efficient engine technology, in either EU3 / Tier 3, EU4 / Tier 4F or EU5\* compliant alternatives, with the latest DANA TE30 transmission, which is designed especially for heavy duty material handling applications, with 5 gears instead of 4 gears. With significant reductions in energy loss from the gearbox and fuel consumed from the engine, you get a smart solution that will cost you less in the long run.

## Four driveline combinations to choose from:

all with a 5+3 transmission and EU3 / Tier 3, EU4 / Tier 4F or EU5\* emissions standards compliant engines.

Engine	Volume	Power	Transm.
Cummins QSM-11 EU3	10.8L	246kW	DANA TE-30500 5+3
Volvo TAD-1150-VE EU3	10.84L	235kW	DANA TE-30500 5+3
Volvo TAD-1170-VE EU4	10.84L	235kW	DANA TE-30500 5+3
Volvo TAD-1180-VE EU5	10.84L	235kW	DANA TE-30500 5+3



# Keeping your driver safe.

The safety of your drivers 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:

- Extra safe access to the cabin with non-slip surfaces and extra safety rails that allow your operator to meet the 3-point contact rule.
- There are doors on both sides of the cabin in case your operator needs to leave the cabin quickly in case of an emergency.
- Excellent visibility from the cabin, giving you a much better view forwards and upwards.
- 2-point seat belts fitted to keep your operator secure.
- Openable side window in the cabin for easy communication.
- Rear-view mirrors mounted on the front mudguards so your operator can see behind him easily
- Overload protection system that will warn the driver if the load exceeds the specified limits.
- LED lights as standard, for better visibility when working in reduced light.
- Kalmar designed steering axle with extra wide tracking for increased stability.
- A fail-safe seat switch that will not allow the machine to be started without the operator in the seat.
- An electrically operated hand brake that is automatically applied as soon as your engine is turned off, bringing your machine to complete stop.

You can also enhance your employees' safety further by fitting your machine with an optional Reverse Warning System, Alcolock, Speed Limiter or additional LED lights.







# Designed for the driver.



# Easy to maintain and monitor.

## Introducing the new Essential Cabin.

The Kalmar Essential Cabin has everything your drivers need to operate at their best.

The well-designed, spacious cabin offers great visibility both forward and backward. An adjustable seat and steering wheel, power-assisted steering, and a choice of joysticks.



You can choose from our F-Generation joystick or our ergonomically designed G-Generation joystick. Both will help keep your driver in complete control as all operations can be managed from one place.



No matter what the weather, your drivers will be comfortable with our improved electronic climate control package with extra strong fans to remove condensation quickly and to maintain a steady temperature in the cabin. You can keep your operators out of the sun with visors that can be fitted on the front, rear or roof windows of the cabin.



With the Kalmar Essential Reachstacker you get more features as standard; sliding side windows, colour operator displays, wipers on the front, rear and roof of the cabin.



G-Generation joystick.



F-Generation joystick.

## Easy to maintain, with industry leading service intervals.

Performing daily inspections and routine servicing is quick and convenient with all check points easily and safely accessible. The electrical cabinet is convenient to access and when the hatch covers are raised, the hydraulic filters, servicing points and the entire driveline can be reached from one location. With industry-leading service intervals, your machine will spend less time being maintained and regular service tasks can be done quicker and more efficiently, all helping to increase the overall availability of your machine.

## 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. This information is then accessed through an easy to use interface that is available on mobile, tablet or more traditional screens. You can 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 retro fitted into existing Kalmar equipment or those built by other manufacturers. Kalmar Insight, turning data into actionable, impactful insights.



## Kalmar Training Academy.

For your team to get the most out of their new reachstacker, the Kalmar Training Academy offers a range of courses for both your technicians and operators. Operators will be shown how to optimise their day-to-day operational performance and what needs to be checked daily on the machine before operations begin. Technicians will be given the knowledge needed to keep your new machine in top condition. Courses are a mix of theory and hands-on experience and can be held at Kalmar or at your site.

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





## A range of options.



**Rear mounted camera.** Knowing what's going on behind you is critical when other personnel are present. A rear mounted camera can provide real time information to an in-cabin display, helping improve personnel and driver safety.



**Speed limiter.** Allows you to set a safe speed limit on the machine that your operators cannot exceed.



**Additional lighting.** Extra LED lighting brings greater operational visibility and safety for personnel working at your site, particularly at night. You can choose from:

- Flashing LED brake lights when reversing
- Additional LED lights on the boom
- Additional LED lights on the cabin roof.



**Fire Suppression System.** To protect your operator and machine from fire you can fit a FSS 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.



**Tyre pressure monitoring.** 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. Active care of your tyres can result in a 10-40% increase in tyre life and up to a 10% decrease in fuel consumption.



# Kalmar Lifetime Services.

## Making sure your business never stops.

We offer four different types of service and maintenance contracts. Each is designed to help you improve your operational efficiency, drive productivity and secure financial predictability. Each contract type includes a set of standardised service modules to meet your business needs.

### The four flexible types of service contracts.

#### Kalmar Support Care

We support your maintenance processes on demand.

- Availability of competent people with the right tools and parts
- Provides additional skills to existing maintenance organisation.

#### Kalmar Essential Care

We perform your agreed maintenance tasks proactively.

- Availability of competent people with the right tools and parts
- Higher degree of financial predictability
- Reduced operational risk to customer
- Improved availability of machines.

#### Kalmar Complete Care

We meet your complete maintenance requirements.

- Predictive maintenance planning
- Low operational risk to customer
- Reduced equipment downtime
- Reduced total cost of operation
- Increased operational predictability.

#### Kalmar Optimal Care

We optimise your business performance.

- Guaranteed availability
- Reduced tied-in capital
- Improved business performance
- Increased peace of mind.

## Kalmar Genuine Parts, when the right part matters.

When something needs to be replaced you need a quality part that meets your exact needs – urgently. Kalmar Genuine Parts offers a rapid delivery service for over 50,000 premium-quality genuine parts to anywhere in the world, with installation support if needed.



## Financing options for you.

You may choose to buy your new reachstacker outright or consider leasing or renting your equipment. Kalmar offers a range of leasing and rental options that give you the financial predictability you need and the option to upgrade your equipment after a fixed period. With our leasing packages, you can focus on your core operations, while we perform all your service and maintenance needs. Kalmar can also look at you trading-in your old equipment.



# Standard.

Kalmar DRU450S (S = Toplift)

## Norms, standards and regulations according to:

- Machinery Directive 2006/42/EC
- Safety Variable Reach Trucks
- Safety Low & High Lift Trucks ANSI/ITSDF B56.1
- Stability Variable Reach Trucks
- CE-marking for trucks within EU/EEA
- ANSI/ITSDF-marking for North America trucks

## Chassis

- Strong, durable heavy-duty chassis for reachstackers
- Safe access steps, platform & handrails (LHS)
- Long bottom access step (on both sides)
- Lifting eyes and anchor points (front & rear)
- Good visibility over rear of truck
- Open chassis with full access to the driveline
- Easy-to-open driveline cover plates (low noise)
- Lifting eyes and anchor points (front & rear)
- Towing pin (rear - incasted)

## Body

- Steps with anti-slip protection
- Rear view mirrors (2x) - positioned on front mudguards
- Strong and protective mudguards (front & rear)

## Steer Axle (rear)

- Kalmar steer axle, dual pivot bearings
- Steer axle with mechanical side stops (±3 deg)
- El-servo power steering with double acting cylinder
- Steer axle with narrow turning radius

## Drive Axle (front)

- Kessler D102 planetary drive axle
- Durable axle with 2-stage hub reduction and differential
- Wide axle for high side stability (4150 mm)
- Strong and powerful oil-cooled Wet Disc Brakes (WDB)
- High pressure filter (10 my) for the brakes (WDB)
- Separate brake oil tank (140 lit), cooling & breather filter

## Wheels (tyres & rims)

- Drive tyres (4x); 18.00x25"
- Steer tyres (2x); 18.00x25"
- Standard rim
- Wheel nut protection on steer tyres
- E4 tyres

## Driveline (CanBus)

- Volvo and Cummins diesel engines (6-cylinder)
- Durable and strong engines with pre-heater
- Emission approval EU3 / Tier 3, EU4 / Tier 4F or EU5\*
- Engine monitoring and protection system
- Fully automatic transmission DANA TE-30500 (5+3)
- Transmission monitoring and reverse protection
- Declutch function activated by brake pressure
- Efficient radiators for engine, transmission & brakes
- Diesel tank (550 l), cooling & breather filter
- Noise efficient muffler and tall exhaust pipe

## Efficient Hydraulics

- Load-sensing variable piston pumps
- Power-on-demand with high lift & lowering speeds
- Pumps for boom, spreader, brakes & steering
- Gear pumps for brake pressure & oil cooling (2x)
- Return filters for the work hydraulics (2x/10 my)
- Servo filter for the work hydraulics (1x/10 my)
- Pressure filter for hydraulics / brakes (2x/10 my)
- Regenerative high-speed lifting & extension
- Power steering, power brakes & ORFS-couplings
- Hydraulic tank (600 l), cooling & breather filter
- Separated dual oil tanks

## Lifting boom

- Strong, durable box-type boom with guide pads
- Boom with 2 lift cylinders & 1 extension cylinder
- Boom end-damping (in-out/up-down/20-40°)
- Lift booms with an extension stroke of 7,0 m
- Duplex 2-stage S5/5 (H4 = 1,15-15,10 m)

## Attachment Toplift (S)

- Top lift 45 tons, hydraulic chain extension 20'-40'
- 4 floating twistlocks & LED-indication lamp panel
- Safety locking, alignment pins & sensors (4x)
- Large sideshift of ±800 mm
- Rotation +195/-105 deg (2 motors & 2 brakes)
- Mechanical Pile Slope (MPS) ±5 deg
- Lift hooks for slings on end beams (4x)

## Electronic System 24V (G-Generation)

- Fully redundant 24V electrical system
- Battery box 2x12V & main power switch
- Electric service box on chassis (LHS)
- 2 working LED-lights on front mudguards (head beam)
- 2 working LED-lights on boom (lift cylinders - 20ft)
- 2 working LED-lights on spreader (twistlocks)
- 2 working LED-lights on counter weight (when reversing)
- 2 position LED-lights on each side of the truck
- 2 tail / brake LED-lights on counter weight (rear)
- 4 blinker LED-lights (front - rear / left - right)
- Flashing LED-brake lights (when reversing)
- 1 rotating warning LED-beacon (on pole / LHS)
- 1 reverse signal / alarm (buzzer when reversing)

## Essential Cabin

### Structure

- Spacious, modern, ergonomically designed cabin
- Large windows, good visibility, in all directions
- In-step handle (left side)
- Sliding window on both sides
- Tinted tempered windows
- Manual moveable cabin (stroke 2375 mm)

### Comfort

- Comfortable seat, mechanical spring, high back
- Adjustable armrest (RHS) & 2-point safety belt
- Inside rear view convex-type mirror (right side)
- Interior lights with fade away function
- Fully adjustable steering wheel column incl. tilt function

- Electrical adjustable operational console with levers, operational buttons & armrest (RHS)

- Power steering wheel with steer knob

- Electric horn

- LED background light for buttons & switches

### Controls

- Joystick for hydraulic functions
- Auto rev-up accelerator at lifting / tilting / spreader
- Accelerator pedal (floor-mounted)
- Double brake pedals (L + R / floor-mounted)
- Gear lever with electronic hand brake (on/off)
- Automatic gear shifting (P1)
- Only first gear activated (P2)
- Only second gear activated (P3)
- Safety override for hydraulic functions (by code)
- Multi-function lever LHS (parking brake and gear/direction switch)
- Combined horn and blinker lever
- Warning - hand brake (on/off) leaving seat
- Hour meter

### Climate

- Electronically controlled heating/ventilation
- Fresh air and recirculation filter
- Single wiper/washer on front window
- Single wiper/washer on roof and rear windows
- Interval wiper functions on front, roof and rear windows

## Information systems

- HMI based on TFT-display 70 x 52 mm (3.2" x 2.2")
- Colour display (DP-250) with automatic fault analysis
- Menu control with toggle wheel & push buttons
- Electronic safety, overload, scale & synchronized lift
- Longitudinal Load Moment Indicator (LLMI) (pop-up menu)
- Longitudinal Load Moment Control (LLMC) (pop-up menu)
- Electronic weight scale in main display (LLMC)

## Operator menu:

- System voltage
- Actual gear
- Engine rpm
- Travelling speed (km/h or mph)
- Combined hydraulic and brake oil temperature
- Transmission oil temperature
- Engine oil pressure & oil level (Volvo)
- Engine oil pressure only (Cummins)
- Engine coolant temperature
- Load weight (capacity) & Load distance (LC)
- Boom extension & Boom angle
- Clock and date
- Operating time (hours)
- Service time indicator (hours)
- Status of heating system & AC system
- Fuel level (diesel and optional AdBlue)
- Estimated operating time before empty tank (hour/min)
- Service indicator
- Electronic weight scale in main display

## Pop-up menu:

- Overload warning in spreader / boom
- Overload warning steering axle (high or low)

## Various warning lights & signals:

- Charging battery
- Low brake pressure
- Failure indicator
- Safety system disconnected
- High engine coolant temperature
- Low engine coolant level (Volvo only)
- Low engine oil pressure
- Preheating engine
- Transmission oil temperature
- Low fuel level
- Hydraulic oil temperature
- Safety system disconnected

## Indicator lamps:

- Head beam
- Direction indication
- Parking brake

## Fleet Management:

- Equipped with telemetric hardware for Kalmar Insight

## Colour

- Chassis, tanks & mudguards: Red RAL 3000
- Boom, attachment & axles: Black RAL 7021
- Cabin: Light-Grey RAL 7035
- Rims: Light-Grey RAL 7035

## 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
- Spare parts catalogue

# Options.

Kalmar DRU450S (S = Toplift)

## Chassis (container handling)

- DRU reachstackers - container Toplift (S-range)
- Wheelbase 6,25 m
- DRU450-62S5 (Cap = 45-31-15 tons / 5-high 9'6")

## Body

- Anti-slip protection on fenders and tanks
- Mudguards in steel + rubber (front)
- Mudguards in rubber (rear)
- Noise insulation kit for the complete truck (-3dB)

## Steer Axle (rear)

- Steer cylinder spacer (less tyre wear)

## Wheels (tyres & rims)

- Spare tyre, rim or complete wheel of various brands
- Special packages with 6-to-12 pcs (tyre, rim or wheel)
- Tyre dimension 18.00x25" for standard models

## Driveline

- Auto engine & ignition stop, after 5 min idle
- Pre-Cleaner air intake incl. raised air intake
- DANA TE-30500 with 5+3 gears
- Cummins QSM-11-C330 (EU3 / Tier 3, 246 kW, 1674 Nm, 10,8 l)
- Volvo TAD-1150-VE (EU3 / Tier 3, 235 kW, 1581 Nm, 10,84 l)
- Volvo TAD-1170-VE (EU4 / Tier 4F, 235 kW, 1581 Nm, 10,84 l)
- Volvo TAD-1180-VE (EU5, 235 kW, 1581 Nm, 10,84 l)
- Good performance drive line optimized for 2.100 rpm

## Load-Sensing Hydraulics

- Hydraulic longlife fine filter with by-pass (3 my)

## Attachment

- Automatic extension 20ft-40ft incl 30ft stop
- Rotations stop spreader ±25 deg + override switch
- Extended twistlocks +250 mm (clearance 300mm)
- Extended twistlocks +100 mm including rubber dampers for noise reduction
- Additional lifting eyes on spreader (2x or 4x)
- Long boom nose 1,0 / 1,6 / 2,0 m
- Forward tilt +/- 2 degrees
- Soft landing function with centre
- Cylinder extension to replace chains

## Electrical system 24V

- Extra sockets, 2x24V + 2x12V
- Extra sockets, 1x12V + USB 1x5V + 2x24V
- Extra sockets, USB 2x5V + 2x24V
- Electric air pressure horn
- Radio with CD/MP3/USB
- 1 NATO starting aid / contact
- 2 extra working LED-lights on mudguard (forward)
- 4 extra working LED-lights on mudguard (20-40ft)
- 2 extra working LED-lights on cabin roof (forward)
- 2 extra working LED-lights on middle of boom (20-40ft)
- 4 extra working LED-lights on front of boom (20-40ft)
- 2 extra working LED-lights on spreader (twistlocks)
- 2 extra reverse LED-lights on counter weight (rear)
- 1 extra warning LED-beacon (on pole / RHS)
- 2 extra warning LED-beacon (on C.W. / LHS+RHS)

## Electronic System 24V (G-generation)

- Vehicle Data Interface (VDI)

## Speed and Lift Settings

- All settings can be changed and are programmable
- A standard default factory setting is supplied
- Boom lift height limit; standard + override button
- Boom load centre limit; standard + override button
- Speed limit; standard (default 15 km/h)
- Speed limit; over defined height (10 km/h at 7,5 m)
- Speed limit; with load outside transport position
- Speed warning; at 15 km/h

## Essential Cabin

### Structure

- Hydraulic sliding cabin (stroke 2375 mm), anti-collision function to avoid container / trailer hitting cabin from the front
- Speed limitation relative to cabin position
- Front window in laminated glass (AS1)

### Comfort

- Seat alternatives (spring or air-cushion)
- Seat with headrest
- Adjustable armrest (LHS)
- Extra trainer seat incl 2-p safety belt (LHS)
- Bracket for terminal and monitor (RHS)
- Writing pad, A4 paper box and reading lamp (RHS)
- Extra rear view convex-type mirror (in cabin / left side)

### Controls

- Electronic joystick for hydraulic functions (F-Generation)
- Electronic joystick for hydraulic functions (G-Generation)
- Button for forward-neutral-reverse on lever/joystick
- Climate
- Electronic Climate Control (ECC) incl AC
- Sun visor front window (black net)
- Sun visor roof window (black net)
- Sun visor rear window (black net)
- Two extra electric fans in cabin ceiling

## Information system

### Operator menu

- Container counter with reset function, trip computer and statistics

### Head-Up display for twistlock indication

- LED indicators for alignment & container(s)

### Fleet Management

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

## Additional equipment

- Reverse camera in rear C.W. (1x) including display 17 cm/7"
- Spreader twistlocks cameras LHS / RHS (2x), incl display 17 cm/7"
- Reverse Warning System (sensors, rev camera & display)
- Tyre Pressure Monitoring System (Bluetooth)
- Diesel powered cabin heater 5 kW
- Alcolock in cabin
- Automatic Fire Suppression System
- Fire extinguisher 5-6 kg, powder
- Tool kit
- Cabin heater incl 220V outlet
- Engine heater incl cab heater
- Engine/hydraulic oil heater incl cab heater
- Central greasing base machine
- Central greasing spreader
- Filter kit 2000 hrs
- Kalmar Load Measurement System (SOLAS compliant)
- Dual storage boxes on left and right hand side of bottom access steps

## Colour

- Other colour than standard - on chassis (specify RAL no)
- Other colour than standard - on cabin (specify RAL no)
- Reinforced anti-corrosion protection (extra primer)

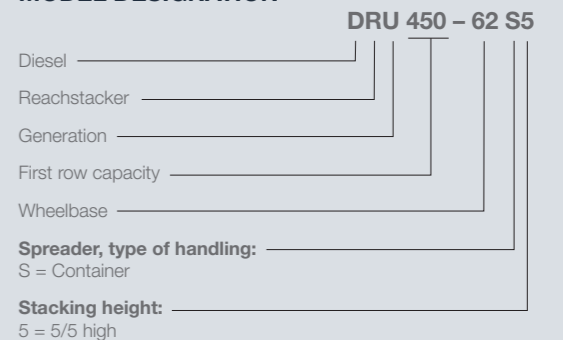
## Documentation and Decals

- Extra documentation set (SPB, MB, IB) - printed copy
- Extra documentation set (SPB, MB, IB) - digital
- Work shop manual - engine (printed or digital)
- Work shop manual - transmission (printed or digital)
- Work shop manual - drive axle (printed or digital)
- Work shop manual - all (printed or digital)

## Training

- Contact Kalmar Training Academy for training program

## MODEL DESIGNATION



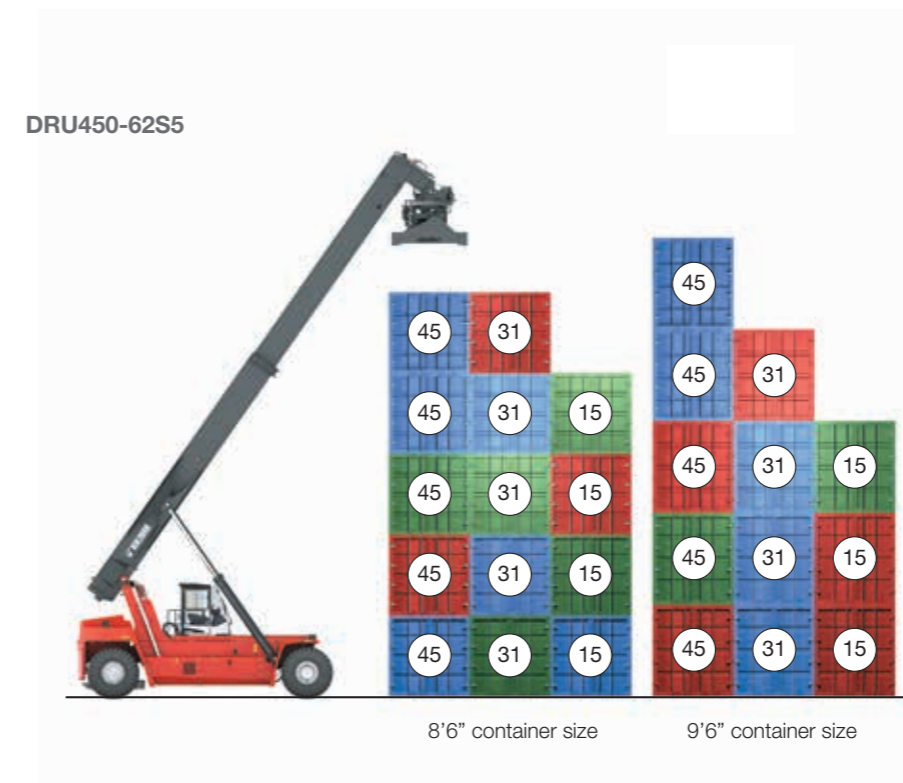
# Technical information.

1 Truck Model			DRU450			
MANDATES	2 Stacking model and height			DRU450-62S5		
	3 Type of handling			Container handling		
	4 Lift capacity, row 1-2-3			45 / 31 / 15 tonnes		
	5 Load centre, from front face of tyres			(mm) 1965 / 3815 / 6315		
	6 Stacking capacity in container row 1-2-3 of 8'6" / 9'6"			5/5 - 5/4 - 4/3		
	7 Spreader type, extension stops, locking			(ft) Mechanical Pile Slope (MPS) by gravity / 20ft, 30ft and 40ft / 4 Twistlocks		
	8 Wheelbase			L3 (mm) 6250		
	WEIGHTS	9 Service weight			(kgs) 69500	
10 Axle load front at load centre L4, unloaded – at rated load			(kgs) 34700 - 99900			
11 Axle load rear at load centre L4, unloaded – at rated load			(kgs) 34800 - 14600			
12 Axle load front of driving position according to EN 1459 - at rated load			(kgs) 88500			
13 Axle load rear at driving position according to EN 1459 - at rated load			(kgs) 26000			
WHEELS	14 Tyres, type - thread			Diagonal / Pneumatic / Tubeless		
	15 Tyre dimensions, front & rear			(in) 18.00x25 - 18.00x25, PR40 E4		
	16 Rim dimensions, front & rear			(in) 13.00x25 - 13.00x25		
	17 Number of wheels, front – rear (*driven)			4* - 2		
	18 Pressure			(MPa) 1.0		
	19 Track (c-c), front – rear			S1 - S2 (mm) 3030-2600		
	DIMENSIONS	20 Boom type - cylinder design			Duplex 2-stage boom with 2 lift cylinders and 1 extension cylinder	
21 Boom angle, min - max			alfa-beta (deg) 0 - 60			
22 Boom height, min - max			H3 - H5 (mm) 4600 - 18200			
23 Boom reach stroke, max			(mm) 7000			
24 Attachment/hook rotation, CW – CCW			(deg) 195 - 105			
25 Sideshift ±			(mm) ±800			
26 Number of rotation motors and rotation brakes			2 + 2			
27 Spreader lifting hooks/eyes			4			
28 Mechanical Pile slope stroke (MPS), side tilt in spreader			(deg) ±5			
29 Lift height, min-max			H4 (mm) 1150 - 15100			
30 Truck height / seat height			H6 - H8 (mm) 3650 / 2575			
31 Overall truck length, without and with boom			H6 - H8 (mm) 8265 - 11450			
32 Sideshift			V1 (mm) ±800			
33 Ground clearance, min.			(mm) 250			
34 Width of truck			B (mm) 4150			
35 Width over attachment, min-max			B1 - B2 (mm) 6055 - 12185			
36 Aisle width for 90° stacking, 20ft container - 40ft container			A1 - A2 (mm) 11400 - 13600			
37 Turning radius, inner / outer 20ft / outer 40ft			R1-R2-R3 (mm) 8300 / 1200 / 9400			
38 Distance front axle – front of attachment MPS			L2 (mm) 835			
DRIVING DATA		39 Type of engine			Diesel / 4-stroke / Turbo	
	40 Drive axle			Kessler D-102, WDB, differential & hub reduction		
	41 Travelling speed forward, unloaded – at rated load			(km/h) 26 - 22		
	42 Travelling speed backward, unloaded – at rated load			(km/h) 18 - 16		
	43 Gradeability max., unloaded – at rated load			(%) 35 - 26		
	44 Gradeability at 2 km/h, unloaded – at rated load			(%) 30 - 17		
	45 Lifting speed, unloaded – at 70% of rated load			(m/s) 0,42 - 0,25		
	46 Lowering speed, unloaded – at rated load			(m/s) 0,36 - 0,36		
	47 Starting battery, voltage – capacity			(V - Ah) 2x12 - 135-145		
	48 Steering system, type – maneuvering			Servo assisted - Steering wheel		
MIS.	49 Service brake system, type – affected wheels			Wet disc brakes - Drive wheel		
	50 Parking brake system, type – affected wheels			Spring brake - Drive wheel		
	51 Noise level EN12053 - equivalent inside cabin LpAZ			78 - 113		
	52 Noise level EN12053 - equivalent outside cabin LwAZ			109 - 111		
	53 Tank volumes, diesel - AdBlue - oil			(dm3) 550 / 35 / 740 (600+140)		
	54 Overload protection system			Electronic		

# Drivelines.

Truck Model	DRU450			
	EU3 / Tier 3	EU3 / Tier 3	EU4 / Tier 4F	EU5
Engine emission approvals	Cummins	Volvo	Volvo	Volvo
Engine emission brand/series	Cummins	Volvo	Volvo	Volvo
Engine model	QSM-11-C330	TAD-1150-VE	TAD-1170-VE	TAD-1180-VE
Engine after treatment type	No SCR / no AdBlue	No SCR / no AdBlue	SCR / AdBlue	SCR / AdBlue
	No particle filter	No particle filter	No particle filter	With particle filter
Engine design / cylinders	6-inline / common rail	6-inline / common rail	6-inline / common rail	6-inline / common rail
Engine displacement (dm3)	10.800	10.840	10.840	10.840
Max power @ engine speed (kW)	246 @ 2000	235 @ 1450 - 2000	235 @ 1450 - 2000	235 @ 1450 - 2000
Max torque @ engine speed (Nm)	1674 @ 1100 - 1400	1581 @ 950 - 1450	1581 @ 950 - 1450	1581 @ 950 - 1450
Drawbar pull, max (kN)	300	300	300	300
Fuel consumption - average diesel (l/h)			14 - 18	
Fuel consumption - average AdBlue (%)	-	-	1 - 5	1 - 5
Transmission model (gears FWD + RVS)	Dana TE-30500 (5+3)			
Transmission gear shift type	Automatic powershift			
Transmission clutch type	Torque converter			
Drive axle brand / series	Kessler D-102 (WDB)			
Service brake / cooling	Wet Disc Brakes with oil cooling			
Alternator, power (V/A)	AC, 2800 (28 x 100)	AC, 4200 (28 x 150)	AC, 4200 (28 x 150)	AC, 4200 (28 x 150)

# Lifting capacity - container handling.







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