

Quality for all.

The Kalmar DCU80-100
Essential Range of empty
container handlers.



Kalmar Essential Range



KALMAR

A complete line-up.

The Kalmar Essential Range of empty container handlers joins our existing range of single and double empty container handlers. Our Essential Range will give you everything you need to get the job done efficiently at a great price, if you need to handle two containers at once or a greater range of options you should consider our existing range of G-Generation empty container handlers.

More for your money.

The Kalmar Essential Range of empty container handlers gives you everything that you expect from Kalmar for a great price, 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 or EU4 / Tier 4F emissions standards compliant engines. You can choose from a wider range of empty container handlers with lifting capacities from 8-10 tonnes, newer more efficient engines and an extended range of options.



Our Essential Range is built on our proven and tested G-Generation platform and the experience of building over 10,000 machines. 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.



With improved load sensing hydraulics, you will be able to lift more efficiently, as exactly the right amount of power is produced to lift and lower at the optimal rate without having to over rev the engine.



Built on a proven platform.

With 1000s of machines built on our proven G-Generation platform you can expect an empty container handler that is ready to take on any task. There are many additional benefits to 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 SmartFleet or your own system.

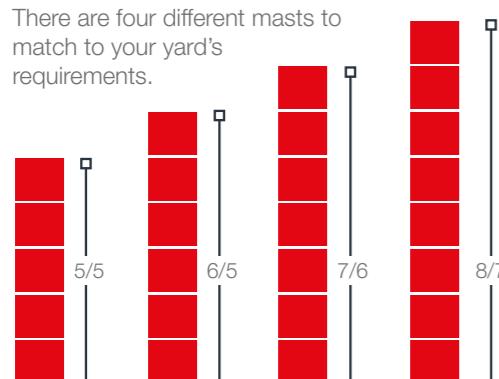
Increased availability: common platforms, mean more common parts, which has helped us increase parts availability through Kalmar MyParts, our 24/7 parts portal.

A broader range of machines.

Our Essential Range of empty container handlers now come with a broader range of lifting capacities and stacking heights. You can choose from 3 different lifting capacities: 8, 9 and 10 tonne.



There are four different masts to match to your yard's requirements.



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 22915-9 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 empty container handlers, 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.

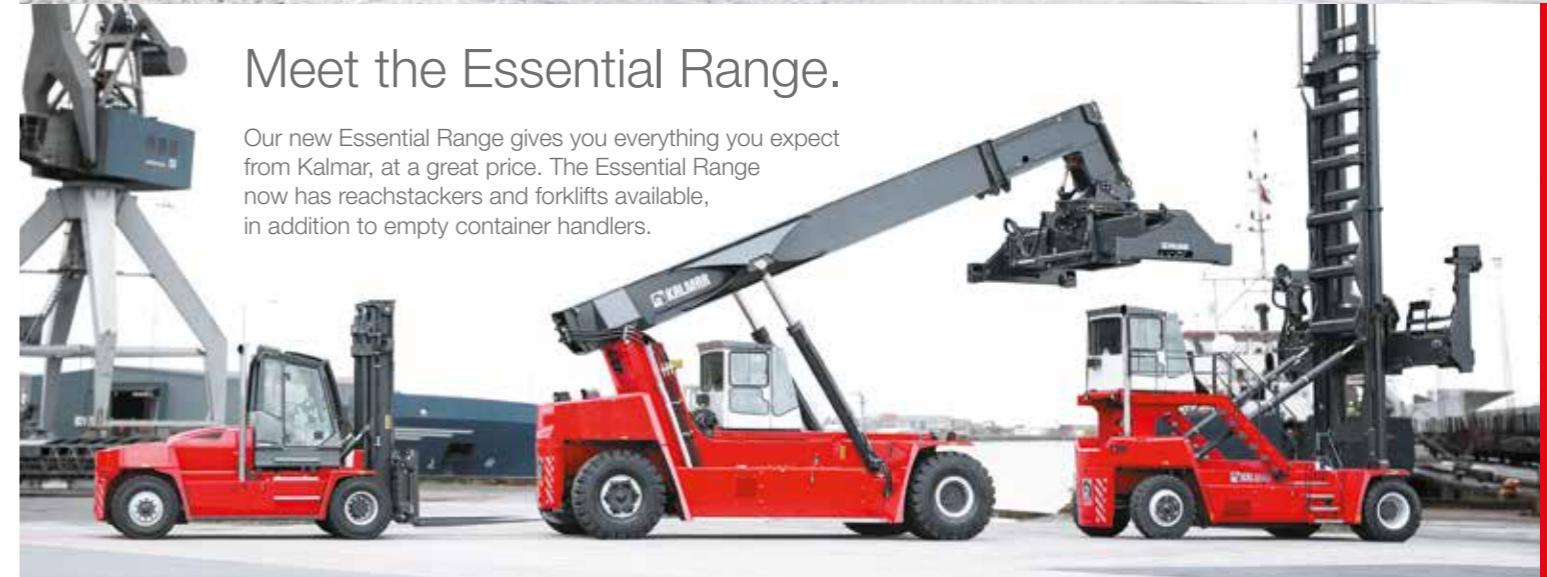
Need a heavy-duty lifter?

Our new Essential empty container handlers can be fitted with heavy duty steering axles, drive axles and lifting chains if you need to operate your machine in tough conditions.



Meet the Essential Range.

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



Highly efficient.

All of our Essential Range of empty container handlers come fitted with load sensing hydraulics and there is a range of the latest generation of engines and transmissions to choose from. No matter which combination you specify, 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 at least a 10% reduction in fuel consumption over our previous generation of machines, as we have combined the newest highly efficient engine technology, in either a EU3 / Tier 3 or EU4 / Tier 4F compliant alternative, with the latest Dana TE14 transmission. With a significant reduction in energy loss from the gearbox and a reduction in fuel consumed from the engine, you get a smart solution that will cost you less in the long run.

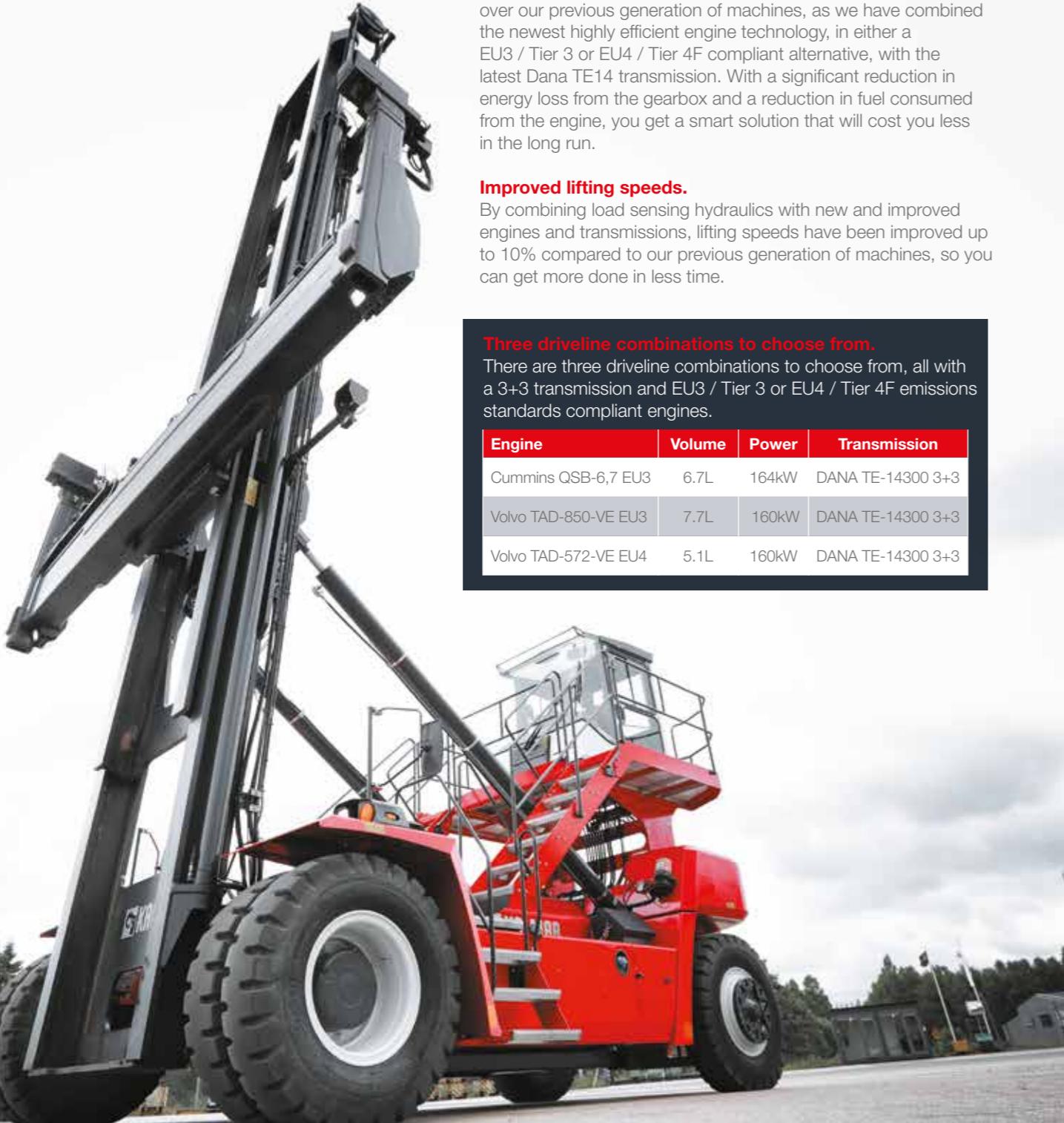
Improved lifting speeds.

By combining load sensing hydraulics with new and improved engines and transmissions, lifting speeds have been improved up to 10% compared to our previous generation of machines, so you can get more done in less time.

Three driveline combinations to choose from.

There are three driveline combinations to choose from, all with a 3+3 transmission and EU3 / Tier 3 or EU4 / Tier 4F emissions standards compliant engines.

Engine	Volume	Power	Transmission
Cummins QSB-6,7 EU3	6.7L	164kW	DANA TE-14300 3+3
Volvo TAD-850-VE EU3	7.7L	160kW	DANA TE-14300 3+3
Volvo TAD-572-VE EU4	5.1L	160kW	DANA TE-14300 3+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:

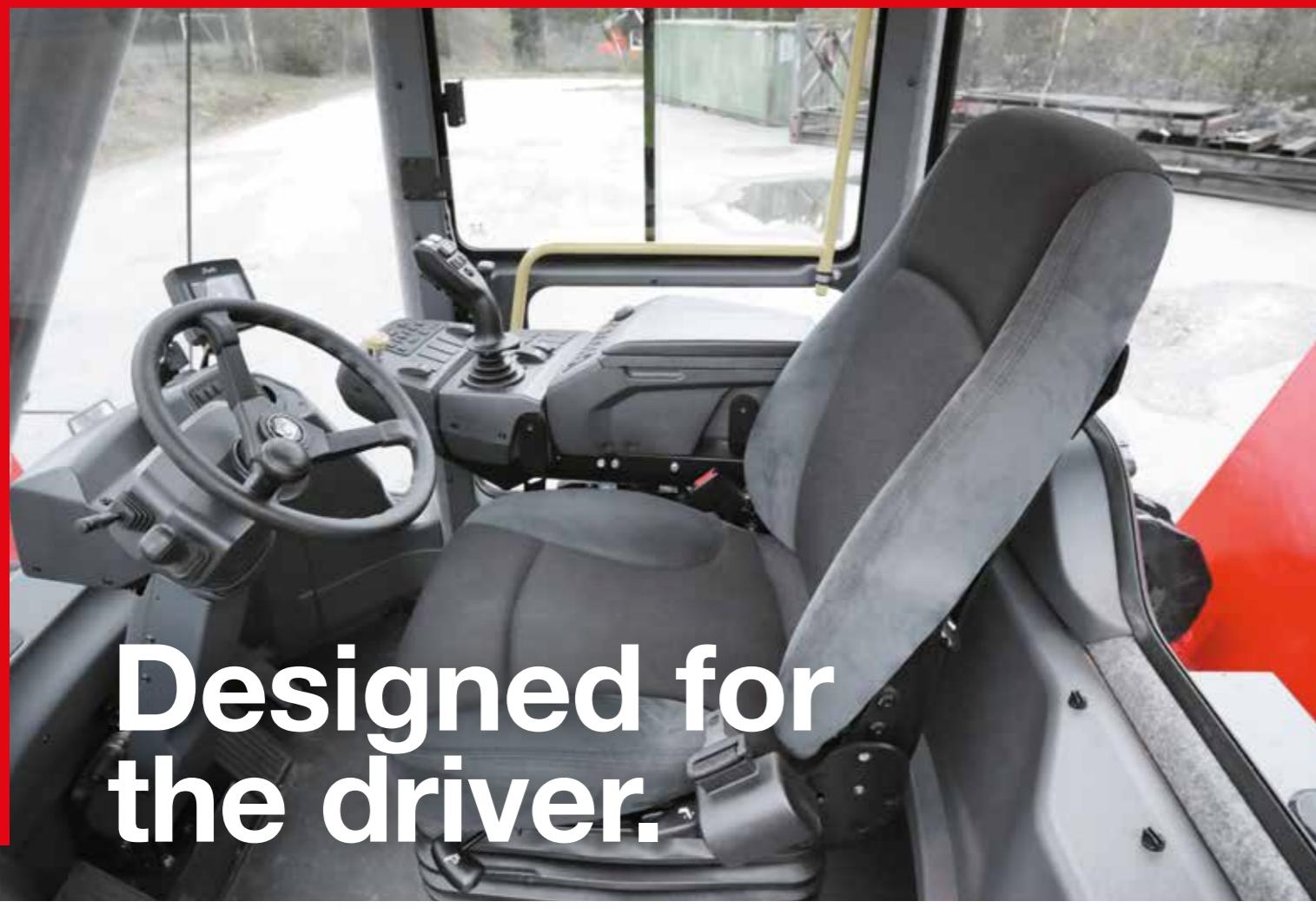
- Extra safe access to the cabin with non-slip surfaces and extra safety rails that allow your operator to meet the 3-point contact rule.
- There are doors on both sides of the cabin in case your operator needs to leave the cabin quickly in case of an emergency.
- Enhanced visibility from the cabin giving 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 are mounted on the front mudguards so your operator can see behind him easily.
- 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.



Tilting masts.

All of our masts can be tilted both forwards and backwards by up to +/- 3 degrees. You can also opt for a +2/-3 degree (FW/BW) or +3/-6 (FW/BW) mast tilt. Tilting backwards will help to stabilise your load while moving and make it easier to lift a container off the stack. Being able to tilt forwards will make placing a container either on the stack or trailer much easier and safer.



Designed for the driver.

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.



With linear levers as standard, you can also choose the F-Generation joystick or our ergonomically designed G-Generation joystick. Whatever your choice, all 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 Range of empty container handlers, you get more features as standard: sliding side windows, colour operator displays, wipers on the front, rear and roof of the cabin.



Easy to maintain and monitor.

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 SmartFleet.

Kalmar SmartFleet can help you understand more about your fleet and your overall operations. It will help you improve your performance, as data is streamed directly from your equipment, analysed and then displayed in an accessible and easy-to-use graphic interface. You will be able to assess the equipment's key performance data and adapt your operational processes to improve both efficiency and productivity. Kalmar SmartFleet enables you to manage your operations more effectively, decrease downtime and improve safety at your site.

Kalmar Training Academy.

For your team to get the most out of their new empty container handler, 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.



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 realtime 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 mast
- 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.



Safety cage. An additional safety cage can be fitted around the cabin to provide additional protection for your driver from falling cargo.



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 down-time
- 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 empty container handler 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 DCU 80-100 ES5-8 (EU3 / Tier 3 & EU4 / Tier 4F)

Norms, standards and regulations according to:

- Machinery Directive 2006/42/EC
- Safety Industrial Trucks ISO 3691-1 & EN 16307-1
- Safety Low & High Lift Trucks ANSI/ITSDF B56.1
- Stability test Masted Container Handlers ISO 22915-9
- CE-marking for trucks within EU/EEA
- ANSI/ITSDF-marking for North America trucks

Chassis

- Strong, durable heavy-duty chassis for EC-Handlers
- High/rear mounted heavy-duty tilt cylinders
- Safe access stairway (multiple steps, hand rails & platform on left side)
- Low cabin mounted at the rear of the truck
- 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
- Rearview mirrors (2x) - mounted on front mudguards
- Strong and protective mudguards (front & rear)

Steer Axle (rear)

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

Drive Axle (front)

- Kessler planetary axle with hub reduction and differential
- D81-ND in normal duty for high stability (W=4,05-4,10 m)
- D91-HD in heavy duty for high stability (W=4,10 m)
- Strong and powerful oil-cooled Wet Disc Brakes (WDB)

Wheels (tyres and rims)

- DCU80 ES: Tyres 12.00x24" (4x + 2x) - E3
- DCU90-100 ES: Tyres 14.00x24" (4x + 2x) - E3
- Standard rim
- Wheel nut protection on steer tyres

Driveline (CanBus)

- Volvo and Cummins diesel engines (4 or 6 cylinder)
- Durable and strong engines with pre-heater
- Emission approval EU3 / Tier 3 or EU4 / Tier 4F
- Engine monitoring and protection system
- Fully automatic transmission DANA TE-14300 (3 + 3)
- Transmission monitoring and reverse protection
- Declutch function activated by the brake pressure
- Efficient radiators for engine, transmission & brakes
- Diesel tank (380 l), 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 mast, spreader, brakes & steering
- Gear pumps for brake pressure
- 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)
- Power steering, power brakes & ORFS-couplings
- Hydraulic tank (320 l), cooling & breather filter

Lift Mast

- Mast design for up to 8-high single stacking
- Duplex 2-stage mast with high mounted tilt cylinder
- Strong, durable lift mast, 1 pair of cylinders & chains
- Durable lift chains (mast and carriage)
- Heavy-duty mast profiles and strong cross members
- Mast with strong mast wheels, bearings & guide pads
- Large diameter shafts / bearing for mast / tilt fixations
- 2 hydraulic hoses & 1 electric cable over the mast
- Mast tilt angles +3 / -3 deg (FW / BW)

Lift Carriage

- Carriage with strong wheels, bearings & guide pads
- Large sideshift of ±600 mm (total stroke 1200 mm)

Attachment

- Durable single main beam with strong design
- Side lift with hydraulic extension 20°-40°
- 2 lift heads with fixed twistlocks from the top
- Mechanical Pile Slope (MPS) by gravity (side tilt)
- MPS with spring loaded vertical lift heads (0-250 mm)
- Lowering interrupt sensors for safe handling
- Safety locking, alignment pins & sensors (2x)
- Twistlocks indication LED-lamp panel (green-yellow-red)

Electrical System 24V (G-Generation)

- Fully redundant 24V electrical system
- Battery box 2x12V & main power switch
- Electric service box on chassis
- 2 working LED-lights on front mudguards (head beam)
- 2 working LED-lights on mast (first cross member)
- 2 working LED-lights on spreader carriage (lift head)
- 2 working LED-lights rear below cabin (when reversing)
- 2 working LED-lights on spreader (bottom)
- 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

Fleet Management

- Kalmar SmartFleet with one year licence included (for available countries only)

Essential Cabin

Structure

- Spacious, modern, ergonomically designed cabin
- Large windows, good visibility, in all directions
- In-step handles on left side
- Sliding window on both sides
- Tinted tempered windows

Comfort

- Comfortable seat, mechanical spring, high back
- Electrically adjustable operational console with levers, operational buttons & armrest (right side)
- Inside rear view convex-type mirror (right side)
- Interior lights with fade away function
- Fully adjustable steering wheel column incl tilt function
- 2-point safety belt
- Power steering wheel with steer knob
- Electric horn
- LED background light for buttons & switches

Controls

- Electronic lift levers for mast & spreader
- 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

Operator menu

- System voltage
- Actual gear
- Engine rpm
- Travelling speed (km/h or m/h)
- Combined hydraulic and brake oil temperature
- Transmission oil temperature
- Engine oil pressure & oil level (Volvo)
- Engine oil pressure only (Cummins)
- Engine coolant temperature
- 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

Various warning lights & signals

- Charging battery
- Low brake pressure
- Failure indicator
- High engine coolant temperature
- Low engine coolant level (not on Cummins)
- Low engine oil pressure
- Preheating engine
- Transmission oil temperature
- Low fuel level (incl AdBlue)
- Hydraulic and brake oil temperature
- Low washer fluid level

Indicator lamps

- Head beam
- Direction indication
- Parking brake

Colour

- Cabin: Light-Grey RAL 7035
- Chassis, tanks & mudguards: Red RAL 3000
- Mast, attachment & axles: Black RAL 7021
- Rims and wheel hubs: 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 & levers/joystick stickers
- Fuse diagram
- Instruction manual
- Maintenance manual
- Spare parts catalogue

Options.

Kalmar DCU 80-100 ES5-8 (EU3 / Tier 3 & EU4 / Tier 4F)

Chassis

- DCU 80-45 ES (L3=4550 mm)
- DCU 90-45 ES (L3=4550 mm)
- DCU 100-45 ES (L3=4550 mm)

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)

- Heavy duty steering axle

Drive Axle

- D91-HD in heavy duty for extra high stability (W=4.6 m)

Wheels (tyres and rims)

- Spare tyre, rim or complete wheel of various brands
- Tyre dimension 14.00x24" replace 12.00x24"
- Tubed tyre 12x24" - E4
- Tubed tyre 14x24" - E4
- Tubeless tyre 14x24" - E4

Driveline

- Cummins QSB-6.7 (EU3 / Tier 3, 164 kW, 949 Nm, 6-c, 6.70 l)
- Volvo TAD-850-VE (EU3 / Tier 3, 160 kW, 1060 Nm, 6-c, 7.70 l)
- Volvo TAD-572-VE (EU4 / Tier 4F, 160 kW, 910 Nm, 4-c, 5.10 l)
- Auto engine & ignition stop after 5 min idle
- Pre-cleaner air intake incl. raised air intake

Hydraulics

- Hydraulic accumulator for lift mast (shock dampening)
- Hydraulic longlife fine filter with by-pass (3 my)
- Load lowering safety valve for mast / spreader

Lift Mast

- Duplex E5 (5-high 9'6" / 5-high 8'6")
- Duplex E6 (5-high 9'6" / 6-high 8'6")
- Duplex E7 (6-high 9'6" / 7-high 8'6")
- Duplex E8 (7-high 9'6" / 8-high 8'6")
- Mast tilt angles +2 / -3 deg (FW/BW)
- Mast tilt angles +3 / -6 deg (FW/BW)
- Heavy duty mast chains

Attachment

- Automatic extension 20-40ft incl 30ft stop
- Soft landing by inductive sensor (on twistlocks only)

Electrical System 24V (G-Generation)

- Extra sockets, 2 x 24V sockets and 2 x 12V sockets in cabin
- Extra sockets, 2 x 24V sockets and 2 x 5V / USB sockets in cabin
- Extra sockets, 1x12V + USB 1x5V + 2x24V
- Electric air pressure horn
- Buzzer when reversing (reverse alarm)
- Radio with CD, MP3, Bluetooth, USB & speakers (24V)
- 2 extra working LED-lights on mudguard (forward)
- 4 extra working LED-lights on mudguard (20-40 ft)
- 2 extra working LED-lights on cabin roof (forward)
- 4 extra working LED-lights on cabin roof (20-40 ft)
- 2 extra working LED-lights on mast (40 ft)
- 2 extra working LED-lights on carriage (20 ft)
- 2 extra reverse LED-lights on counter weight (rear)
- 1 extra warning LED-beacon on top of mast (front)

Information systems

Operator menu

- Container counter with reset function, trip computer and statistics

Head-Up display for twistlock indication

- LED indicators for alignment & container(s)

Additional equipment

- Reverse camera (1x) including display 17 cm/7"
- Spreader cameras 2x (left and right) incl. Display 17 cm/7"
- Reverse Warning System (camera, display & sensors)
- Tyre Pressure Monitoring System (Bluetooth)
- Diesel powered cabin heater 5 kW
- Alclock in cabin
- Automatic Fire Suppression System
- Fire extinguisher 5-6 kg, powder
- Lockable fuel cap
- Cabin heater incl 220V outlet
- Engine heater incl cab heater
- Engine/hydraulic oil heater incl cab heater
- Central greasing base machine
- Central greasing spreader
- Tool kit
- Filter-kit 2000 hrs

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

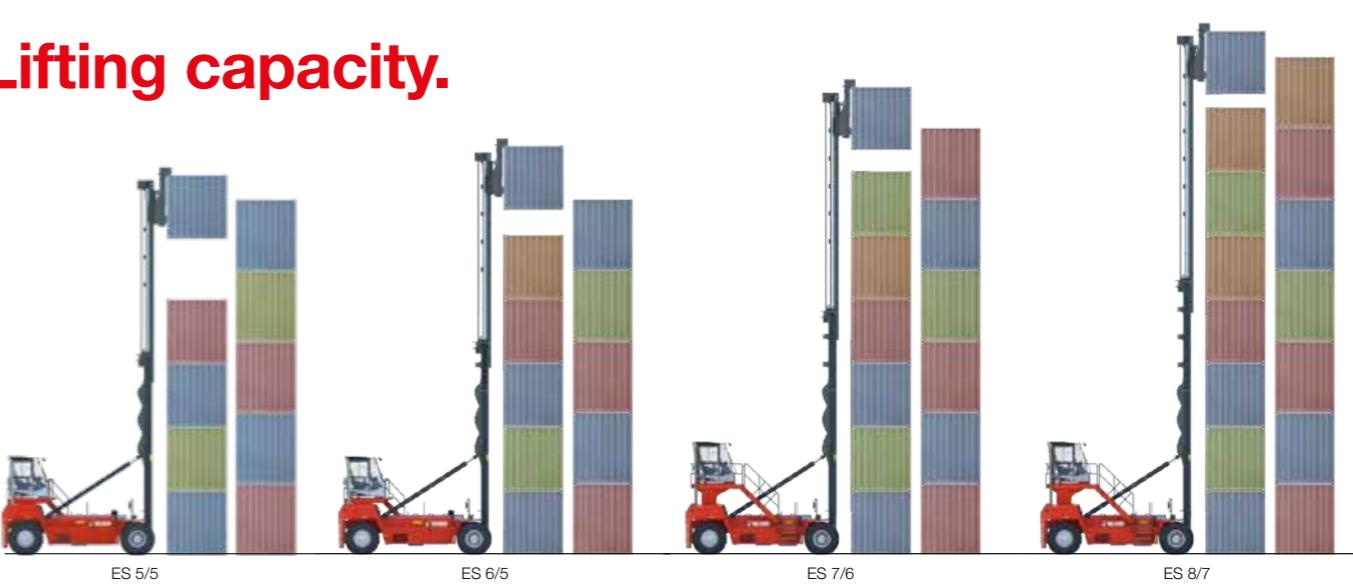
- Contact Kalmar Training Center for training programs

Technical information.

1 Truck Model		DCU 80-ES				DCU 90-ES				DCU 100-ES				
MANDATES	2 Stacking model and height	ES5/5	ES6/5	ES7/6	ES8/7	ES5/5	ES6/5	ES7/6	ES8/7	ES5/5	ES6/5	ES7/6	ES8/7	
	3 Type of handling			Single stacking			Single stacking				Single stacking			
	4 Lifting capacity, rated MPS (kg)	Q1 (kgs)		8000			9000				10000			
	5 Lifting capacity, number of containers, 8'6" - 9'6" (single mode)		5/5	6/5	7/6	8/7	5/5	6/5	7/6	8/7	5/5	6/5	7/6	
	6 Spreader locking type, standard			Twistlocks			Twistlocks				Twistlocks			
	7 Spreader type, extension stops, sensors			Sidelift, 20 - 40ft with 30ft stop, alignment & interrupt sensors			Sidelift, 20 - 40ft with 30ft stop, alignment & interrupt sensors				Sidelift, 20 - 40ft with 30ft stop, alignment & interrupt sensors			
	8 Wheelbase	L3 (mm)		4550			4550				4550			
	9 Load centre, front of tyres, with MPS	L4 (mm)		1210			1210				1210			
	10 Service weight	(kgs)	34700	35300	36800	38300	36700	37300	38800	40300	39400	40000	41500	
WEIGHTS	11 Axle load front, unloaded - at rated load	(kgs)	22400 - 34700	23100 - 35300	24700 - 37000	26400 - 38600	22900/36700	23600/37400	25200/39000	26900/40700	23800/39200	24500/39900	26200/41500	
	12 Axle load rear, unloaded - at rated load	(kgs)	12300 - 8000	12200 - 7900	12100 - 7800	11900 - 7600	13800/9000	13700/8600	13600/8800	12400/8600	15600/10200	15500/10200	15400/10000	
	13 Tyres, type - thread			Pneumatic / Diagonal			Pneumatic / Diagonal				Pneumatic / Diagonal			
	14 Tyre dimensions, front & rear	(in)		12.00 x 24"			14.00 x 24"				14.00 x 24"			
	15 Rim dimensions, front & rear	(in)		8.50 x 24"			10.00 x 24"				10.00 x 24"			
	16 Number of wheels, front - rear (*driven)	(MPa)		4* - 2			4* - 2				4* - 2			
	17 Pressure	S1 - S2 (mm)		1.0			1.0				1.0			
	18 Track (c-c), front - rear	B / B (mm)		3270 - 2250 (opt. heavy duty 2450)			3270 - 2200 standard (opt. heavy duty 2400)				3270 - 2200 (opt. heavy duty 2400)			
	19 Lift mast, type, stage, cylinders and chains		Duplex / 2-stage / 2 cylinders / 2 lift chains				Duplex / 2-stage / 2 cylinders / 2 lift chains				Duplex / 2-stage / 2 cylinders / 2 lift chains			
DIMENSIONS	20 Tilting of mast, forward - backward (°)	alfa-beta (deg)		3-3 (opt. 3-6 or 2-3)			3-3 (opt. 3-6 or 2-3)				3-3 (opt. 3-6 or 2-3)			
	21 Lift mast height, min - max	H3 - H5 (mm)	8540 - 15040	9040 - 16040	10290 - 18540	11540 - 21040	8600 - 15100	9100 - 16100	10350 - 18600	11600 - 21100	8600 - 15100	9100 - 16100	10350 - 18600	
	22 Lift height, min - max in twistlocks / lift hooks	H10 - H4 (mm)	2240 - 15200	2240 - 16200	2240 - 18740	2240 - 21240	2300 - 15300	2300 - 16300	2300 - 18800	2300 - 21300	2300 - 15300	2300 - 16300	2300 - 18800	
	23 Truck height, low / *high cabin position, cabin roof	H6 (mm)		3940 / *4540			4000 / *4600				4000 / *4600			
	24 Seat height, low / *high cabin position	H8 (mm)		2800 / *3400			2860 / *3460				2860 / *3460			
	25 Length of truck MPS	L (mm)		6900			6900				6900			
	26 Sideshift	V1 (mm)		± 600 (1200)			± 600 (1200)				± 600 (1200)			
	27 Ground clearance, min.	G (mm/deg)		250			250				250			
	28 Width of truck	B (mm)		4050			4100				4100			
DRIVELINE	29 Width over attachment, min-max	B1 - B2 (mm)		6085 - 12220			6085 - 12220				6085 - 12220			
	30 Min. aisle width for 90° stacking, 20ft container - 40ft container	A1 - A2 (mm)		10600 - 14200			10850 - 14350				10850 - 14350			
	31 Turning radius, inner / outer 20ft / outer 40ft	R1-R2-R3		1150 / 6750 / 9350			1250 / 7000 / 9700				1250 / 7000 / 9700			
	32 Distance front axle - front of attachment MPS	L2		1210			1210				1210			
	33 Type of engine		Diesel / 4-stroke / Turbo				Diesel / 4-stroke / Turbo				Diesel / 4-stroke / Turbo			
	34 Drive axle		Axle, differential & hub reduction				Axle, differential & hub reduction				Axle, differential & hub reduction			
	35 Travelling speed forward, unloaded - at rated load	(km/h)		24 - 24			24 - 24				24 - 24			
	36 Travelling speed backward, unloaded - at rated load	(km/h)		22 - 22			22 - 22				22 - 22			
	37 Gradeability max., unloaded - at rated load	(%)		29 - 22			29 - 22				29 - 22			
OTHERS	38 Gradeability at 2 km/h, unloaded - at rated load	(%)		24 - 19			24 - 19				24 - 19			
	39 Lifting speed, unloaded - at 70% of rated load	(m/s)		0.55 - 0.50			0.55 - 0.50				0.55 - 0.50			
	40 Lowering speed, unloaded - at rated load	(m/s)		0.50 - 0.60			0.50 - 0.60				0.50 - 0.60			
	41 Starting battery, voltage - capacity	(V - Ah)		2x12 - 135-145			2x12 - 135-145				2x12 - 135-145			
	42 Steering system, type - maneuvering		Servo assisted - Steering wheel				Servo assisted - Steering wheel				Servo assisted - Steering wheel			
	43 Service brake system, type - affected wheels		Wet disc brakes - Drive wheel				Wet disc brakes - Drive wheel				Wet disc brakes - Drive wheel			
	44 Parking brake system, type - affected wheels		Spring brake - Drive wheel				Spring brake - Drive wheel				Spring brake - Drive wheel			
	45 Noise level EN12053 - equivalent inside cabin LpAZ	(dB(A))		63 - 66			63 - 66				63 - 66			
	46 Noise level EN12053 - equivalent outside cabin LwAZ	(dB(A))		106 - 108			106 - 108				106 - 108			
	47 Tank volumes, diesel - AdBlue - oil	(dm3)		380 / 15 / 320			380 / 15 / 320				380 / 15 / 320			
48 Overload protection system with warning OLS1 + OLS2	Optional		OLS 1: Lift Monitor, OLS 2: Lift cut-off + Tilt Monitor				OLS 1: Lift Monitor, OLS 2: Lift cut-off + Tilt Monitor				OLS 1: Lift Monitor, OLS 2: Lift cut-off + Tilt Monitor			

Truck Model	
Engine emission approvals	
Engine emission brand/series	
Engine model	
Engine after treatment type	
Engine design / cylinders	
Engine displacement	(dm3)
Max power @ engine speed	(kW)
Max torque @ engine speed	(Nm)
Max engine speed	(rpm)
Fuel consumption - average diesel	(l/h)
Fuel consumption - average AdBlue	%
Transmission model (gears FWD + RVS)	
Transmission gear shift type	
Transmission clutch type	
Drive axle brand / series	
Service brake / cooling	
Steer axle brand / series	
Alternator, power	(V/A)
AC, 1680 (28 x 60)	AC, 3640 (28 x 130)
AC, 3080 (28 x 110)	

Lifting capacity.





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