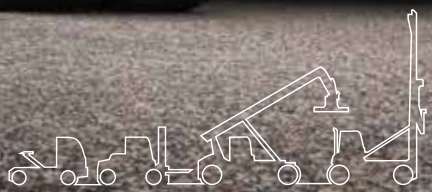
Quality for all.

The Kalmar DCU80-100 Essential Empty Container Handlers.

Kalmar Essential Range



KALMAR

More for your money.

The Kalmar Essential Empty Container Handler 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, EU4 / Tier 4F or EU5* 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.

G-Gen

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.

* Available 2019/20.

A complete line-up.

The Kalmar Essential Empty Container Handlers join 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.

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.

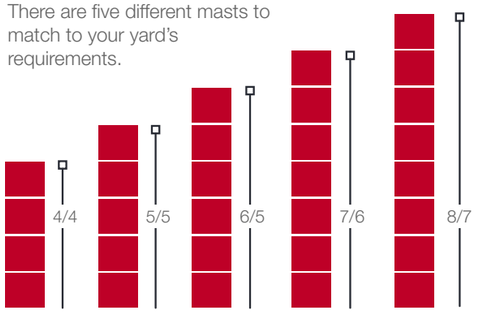
Common points of connection: to make it easier for data to pass from your machine to external reporting systems, to Kalmar Insight or your own system.

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

A broader range of machines.

Our Essential 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 five 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 versatile lifter?

With a range of different lifting heights and capacities, our Essential Empty Container Handlers will have the solution you need.

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 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.

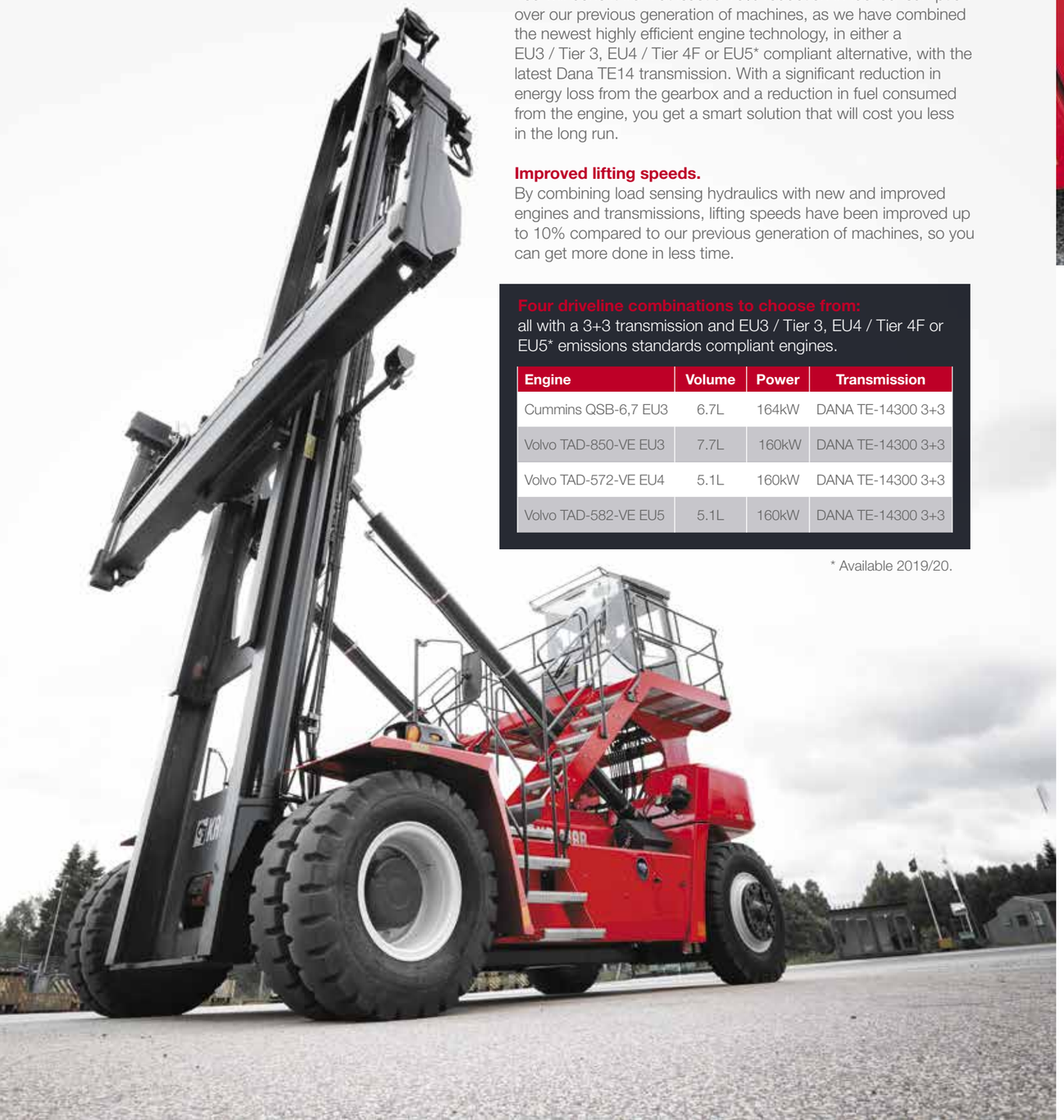
Use less fuel.
You will benefit from at least a 10% reduction in fuel consumption over our previous generation of machines, as we have combined the newest highly efficient engine technology, in either a EU3 / Tier 3, EU4 / Tier 4F or EU5* compliant alternative, with the latest Dana TE14 transmission. 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.

Four driveline combinations to choose from:
all with a 3+3 transmission and EU3 / Tier 3, EU4 / Tier 4F or EU5* 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
Volvo TAD-582-VE EU5	5.1L	160kW	DANA TE-14300 3+3

* Available 2019/20.



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 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 Empty Container Handler, 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 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 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.

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

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 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 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 trading-in your old equipment.

Standard.

Kalmar DCU80-100ES4-8 (EU3 / Tier 3, EU4 / Tier 4F or EU5*)

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)
- DCU90-100 ES: Tyres 14.00x24” (4x + 2x)
- 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, EU4 / Tier 4F or EU5
- 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

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
- Electronic weight scale in main display

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

Fleet Management
- Equipped with telemetric hardware for Kalmar Insight

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

* Available 2019/20.

Options.

Kalmar DCU80-100ES4-8 (EU3 / Tier 3, EU4 / Tier 4F or EU5*)

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)

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 14.00×24” replace 12.00x24”
- Tubed tyre 12x24”
- Tubed tyre 14x24”
- Tubeless tyre 14x24”

Driveline
- Cummins QSB-6,7 (EU3 / Tier 3, 164 kW, 949 Nm, 6-cyl, 6.70 l)
- Volvo TAD-850-VE (EU3 / Tier 3, 160 kW, 1060 Nm, 6-cyl, 7.70 l)
- Volvo TAD-572-VE (EU4 / Tier 4F, 160 kW, 910 Nm, 4-cyl, 5.10 l)
- Volvo TAD-582-VE (EU5, 160 kW, 910 Nm, 4-cyl, 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 E4 (4-high 9’6” / 4-high 8’6”)
- 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)

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)

Electronic System
- OLS1 (Over Loading System) monitoring lift with warning and speed limit (warning pop-up and buzzer)
- OLS2; OLS1 + monitoring and cut-off lift / tilt
- VDI - Vehicle Data Interface

Speed and Lift Settings
- All settings can be changed and are programmable
- A standard default factory setting is supplied
- Lift height limit; standard incl override button (default: 7,5 m)
- Lift height limit; warning over defined height (default: 7,5 m)
- Speed limit; standard (default: 15 km/h)
- Speed limit; over defined height (10 km/h at 7,5 m)
- Speed warning at 15 km/h

Essential Cabin
Structure
- Low-mounted cabin with dual access stairways & upper platform
- High-mounted cabin (+600 mm), improved visibility, dual access stairways & upper platform
- Safety cage to protect cabin from falling cargo
- 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)

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 systems
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 (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
- Alcolock 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**			**DCU80-ES**			
	2	**Stacking model and height**			**ES4/4**	**ES5/5**	**ES6/5**	**ES7/6**	**ES8/7**	**ES4/4**	**ES5/5**	**ES6/5**	**ES7/6**	**ES8/7**	**ES4/4**	**ES5/5**	**ES6/5**	**ES7/6**	**ES8/7**
MANDATES	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)			4/4	5/5	6/5	7/6	8/7	4/4	5/5	6/5	7/6	8/7	4/4	5/5	6/5	7/6	8/7
	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	L2	(mm)	1210 or 1260					1210					1210				
WEIGHTS	10	Service weight		(kgs)	33300	34700	35300	36800	38300	35300	36700	37300	38800	40300	38000	39400	40000	41500	43000
	11	Axle load front, unloaded – at rated load		(kgs)	20900 - 33100	22400 - 34700	23100 - 35300	24700 - 37000	26400 - 38600	21400 - 35200	22900 - 36700	23600 - 37400	25200 - 39000	26900 - 40700	22300 - 37700	23800 - 39200	24500 - 39900	26200 - 41500	27800 - 43200
	12	Axle load rear, unloaded – at rated load		(kgs)	12400 - 8100	12300 - 8000	12200 - 7900	12100 - 7800	11900 - 7600	13900 - 9100	13800 - 9000	13700 - 8600	13600 - 8800	12400 - 8600	15700 - 10400	15600 - 10200	15500 - 10200	15400 - 10000	15200 - 9900
WHEELS	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)			4* - 2					4* - 2					4* - 2				
	17	Pressure		(MPa)	1.0					1.0					1.0				
	18	Track (c-c), front – rear	S1 - S2	(mm)	3270 - 2250					3270 - 2200					3270 - 2200				
DIMENSIONS	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				
	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)	7050 - 12050	8540 - 15040	9040 - 16040	10290 - 18540	11540 - 21040	7100 - 12100	8600 - 15100	9100 - 16100	10350 - 18600	11600 - 21100	7100 - 12100	8600 - 15100	9100 - 16100	10350 - 18600	11600 - 21100
	22	Lift height, min - max in twistlocks / lift hooks	H10 - H4	(mm)	2240 - 12250	2240 - 15200	2240 - 16200	2240 - 18740	2240 - 21240	2300 - 12300	2300 - 15300	2300 - 16300	2300 - 18800	2300 - 21300	2300 - 12300	2300 - 15300	2300 - 16300	2300 - 18800	2300 - 21300
	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				
	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				
DRIVING DATA	32	Type of engine			Diesel / 4-stroke / Turbo					Diesel / 4-stroke / Turbo					Diesel / 4-stroke / Turbo				
	33	Drive axle			Axle, differential & hub reduction					Axle, differential & hub reduction					Axle, differential & hub reduction				
	34	Travelling speed forward, unloaded – at rated load		(km/h)	24 - 24					24 - 24					24 - 24				
	35	Travelling speed backward, unloaded – at rated load		(km/h)	22 - 22					22 - 22					22 - 22				
	36	Gradeability max., unloaded – at rated load		(%)	29 - 22					29 - 22					29 - 22				
	37	Gradeability at 2 km/h, unloaded – at rated load		(%)	24 - 19					24 - 19					24 - 19				
	38	Lifting speed, unloaded – at 70% of rated load		(m/s)	0,55 - 0,50					0,55 - 0,50					0,55 - 0,50				
	39	Lowering speed, unloaded – at rated load		(m/s)	0,50 - 0,60					0,50 - 0,60					0,50 - 0,60				
	40	Starting battery, voltage – capacity		(V - Ah)	2×12 - 135-145					2×12 - 135-145					2×12 - 135-145				
	41	Steering system, type – maneuvering			Servo assisted - Steering wheel					Servo assisted - Steering wheel					Servo assisted - Steering wheel				
	42	Service brake system, type – affected wheels			Wet disc brakes - Drive wheel					Wet disc brakes - Drive wheel					Wet disc brakes - Drive wheel				
	43	Parking brake system, type – affected wheels			Spring brake - Drive wheel					Spring brake - Drive wheel					Spring brake - Drive wheel				
OTHERS	44	Noise level EN12053 - equivalent inside cabin LpAZ		(dB(A))	71 - 73					71 - 73					71 - 73				
	45	Noise level EN12053 - equivalent outside cabin LwAZ		(dB(A))	109 - 111					109 - 111					109 - 111				
	46	Tank volumes, diesel - AdBlue - oil		(dm3)	380 / 15 / 320					380 / 15 / 320					380 / 15 / 320				
	47	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		**EU3 / Tier 3**	**EU3 / Tier 3**	**EU 4 / Tier 4F**	**EU5**
Engine emission brand/series		Cummins / QSB	Volvo / D-8	Volvo / D-5	Volvo / D-5
Engine model		QSB-6.7-C220	TAD-850-VE	TAD-572-VE	TAD-582-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	4-inline / common rail	4-inline / common rail
Engine displacement	(dm3)	6.700	7.700	5.100	5.100
Max power @ engine speed	(kW)	164 @ 2.000	160 @ 1.500-2.100	160 @ 1.700-2.100	160 @ 1.700-2.100
Max torque @ engine speed	(Nm)	949	1060	910	910
Max engine speed	(rpm)	2.100	2.100	2.100	2.100
Fuel consumption - average diesel	(l/h)	5 - 15	5 - 15	5 - 15	5 - 15
Fuel consumption - average AdBlue	%	-	-	1 - 5	1 - 5
Transmission model (gears FWD + RVS)		Dana TE-14300 (3+3)			
Transmission gear shift type		Automatic powershift			
Transmission clutch type		Torque converter			
Drive axle brand / series		Kessler / D81 - D91 (WDB)			
Service brake / cooling		Wet Disc Brakes with oil cooling			
Steer axle brand / series		Kalmar / single cylinder / extra wide			
Alternator, power	(V/A)	AC, 1680 (28 x 60)	AC, 3640 (28 x 130)	AC, 3080 (28 x 110)	AC, 3080 (28 x 110)

Lifting capacity.

ES 4/4 ES 5/5 ES 6/5 ES 7/6 ES 8/7

KALMAR

Making your every move count

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