Expect more.

The Kalmar DCG80 -100
Empty Container Handler range.

KALMAR

More for you.

Our new range of Kalmar empty container handlers offer you more than they ever have before, which means you get more for your money.

You get more choice of machines, with a range of single and double container stackers in 17,600, 19,800 or 22,000 lbs capacities. A greater choice of drive lines and performance levels that you can match to your individual needs. More comfort for your drivers, as all of our new range comes with our state of the art EGO Cabin, which, can be situated in either a high or low position on the chassis.

A more robust and efficient range, with the highest lifting and lowering rates and dramatically reduced running costs per move. Plus easier access for service and maintenance and more options across the whole range to choose from than ever before.

No matter what way you look at it, the new range of Kalmar empty container handlers give you more.

The operability and control of the Kalmar empty container handler is extremely good. It's agile, suitable for any empty container yard.

Zhang Lin. Operator at NingBo Beilun International Container Terminals Ltd.

To us, Kalmar offers the best machines. It's the safest truck we've used. Kalmar also offers excellent service support.

He Jianguo. Container Handler Unit leader, G-Fortune (Ningbo) Company.

90% of our customers would repurchase.

Expect nothing less.

With nearly 10,000 empty container handlers built to our high standards over the last 30 years, it's no surprise that 1,000's of them are still in operation today. In fact over 90% of our customers say they would repurchase a Kalmar empty container handler again, primarily for their superior durability and reliability and the local Kalmar support and service network.

more for you.

You can expect more across the entire range.

more options.

Now more safety features and options to customize your machine than ever before. From reverse warning systems to a range of different drive lines and spreaders.

more return.

Higher productivity with lower fuel consumption means a lower cost per move. Longer servicing intervals with easier access for service and maintenance, saving you time and money. Plus, the highest re-sale values in the market.

more robust.

Built on our proven G-Generation platform you get a stronger chassis with high and rear mounted cylinder package for improved stability and toughness. You also get upgraded drive axles with oil-cooled Wet Disc Brakes and a wider rear steer for greater stability when lifting heavy loads to heights.

Double stackers, up to 22,000 lbs, high mounted cabin.

more choice.

You can choose from either a single or double stacker model with three different lifting capacities each. There are two different types of cabins that can be mounted in either a high or low position, four spreader options and four different lifting heights to choose from for both the single and the double stackers.

more efficient.

Proven, powerful yet efficient drive lines in both medium and high performance versions with 3 or 4 speed manual transmissions and a choice of engines that meet both the EU Stage 3 and 4 as well as EPA Tier 3 and Tier 4-Final[4] Emission standards. With the added efficiency of standard load sensing hydraulics and a choice of options for greater fuel efficiency including Eco Drive Modes, Stop/Start Technology and Tire Pressure Monitoring.

Single stackers, up to 22,000 lbs, low mounted cabin.

more comfort.

New EGO cabin with multi-functional joystick or linear lift levers, advanced ergonomics and improved visibility in all directions, including the corner castings and upwards. Plus, a new tilt cylinder design for greater driver stability and control.

More choice.

Choose from six different machines depending on your needs.

The Kalmar DCG 80-100 Empty Container Handler range.
You can choose three different lifting capacities, either 17,600, 19,800 or 22,000 lbs depending on your business needs.

Each of these different lifting capacities can then be coupled with either a single or double container handler. Giving you three different lifting capacities to choose from and two stacking modes.

A choice of lifting heights.
We have four different mast heights to choose from, which give you the ability to stack up to 9 high. You can choose from 5/5 up to 8/7 mast heights for containers sized 8'6"/9'6". You can expect to go one container higher with our double stackers as you are able to carry your containers 1+1.

A choice of spreaders.
The first thing you need to do is know what sort of containers you will be handling, then you can decide what sort of lifting head you will need on your single or double spreader.

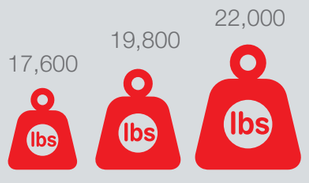
For single stacker spreaders, you can choose from lifting heads with either standard twistlocks for ISO containers or ones that have a wide twistlock position for both ISO and wide body containers.

For double stacker spreaders, you can choose from lifting heads with lift hooks and hydraulic side clamps to handle one or two standard 20-40ft containers. Or for bigger containers you can choose a lifting head with additional safety wedges that can lock in single containers and handle containers greater than 45ft in length.

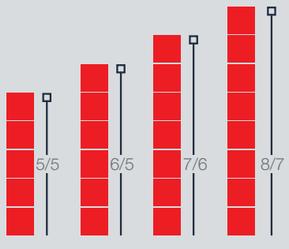
A choice of end beam levelers.
Each of our new machines comes with spreader end beams with a 9.8" leveling stroke on both sides of the lift head to make for safer loading of containers onto tilting trailers. This is done through a Mechanical Pile Slope.

If you require additional leveling capabilities you can choose a Hydraulic Pile Slope, which will give you an additional +/- 5 degrees above the standard 9.8" leveling stroke. This system provides for a safer and smoother leveling when loading containers onto tilting trailers.

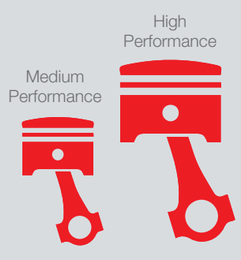
3 lifting capacities.



4 lifting heights.



2 performance alternatives.



Extra comfort, extra smart.

Every member of our empty container handler range comes fitted with our new EGO cabin, the ultimate operating environment for your driver.

With a more ergonomic design, smarter functions and an intuitive workspace than ever before, you can expect to get more from your operators.

More to see: With A-posts being replaced with slim B-posts you can expect greater visibility in all directions: forward, backward, to the side and upwards. Our new dual wiper system cleans a bigger area of the front windscreen than before so your forward view will stay extra clean and clear.

Extra easy to operate: With a new joystick, electronically adjustable work console and side tilt steering wheel they are all designed to minimize driver fatigue and maximize operational efficiency.

More comfortable: With an adjustable drivers seat, a new fault-safe pedal system and Climate Control system with smarter controls, your operator will benefit from improved ventilation heating and cooling, plus a cabin with superior interior comfort.

Extra smart: Our new user interface combines sight, sound and touch to create a perfectly balanced operating environment with a new color display at its heart. Advanced diagnostics allows for greater operational control and safety.

More efficient.

More choice of drive lines.

You can choose from either Medium Performance (MP) or High Performance (HP) drive lines. The MP engine and transmission combination can handle most day-to-day applications. However, if you need that extra power and faster lifting speed, then the HP combination might be more suitable. Both options come with Eco Drive Modes with three different operating modes.

Engine Power	Medium Performance: **200 - 240 hp** High Performance: **240 - 280 hp**
Engine Torque	Medium Performance: **650-800 ft.lb** High Performance: **800-1000 ft.lb**
Transmission	Medium Performance: **3+3 gears** (no lock-up) High Performance: **4+4 gears** (with lock-up)
Lift & lowering speeds	Medium Performance: **108-98 ↑/98-118 fpm↓** High Performance: **128-118↑/108-118 fpm↓**

More performance on demand.

Our entire range of empty container handlers comes with ECO-Drive modes, giving you three different power modes to choose from.

Power Mode: when speed is of the essence. With full engine speed you will be able to move quickly about the yard, lift and lower, without compromising on safety.

Normal Mode: when you need to retain some speed. With a slightly reduced engine speed you can expect 5-15% lower running and fuel costs.

Economy Mode: when you need the lowest running costs. With engine speed reduced even further you can expect 10-25% lower running and fuel costs.

Normal Mode.
Save 5-15%
in running costs.

Economy Mode.
Save 10-25%
in running costs.

more efficient.

More options.

Reverse Warning System (RWS). Knowing what's going on behind you is critical when other personnel are present. Four rear sensors and a reversing camera relay real-time information to an in-cabin display, alerting the driver to any dangers, increasing personnel and driver safety. You can also add additional cameras on the spreaders or on the front of the machine.

Fire Suppression System (FSS). To protect your operator and machine from fire you can fit a FSS to your machine. The system utilizes 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.

Alco-Lock. To ensure that your driver is at their best when operating your equipment you can install an Alco-Lock system. This system makes sure that the driver meets alcohol blood level standards before being able to start the machine, much like a breathalyzer.

Cabin options. Depending on your specific needs you can choose from a low or high mounted cabin (+24"). High cabins provide better visibility for the driver particularly when working with two containers or on high stacks.

Reverse Alarm System. When your staff are working side by side with moving vehicles there is always a safety risk. Installing a reverse alarm system provides a clear acoustic alert when the machine is reversing so personnel can make sure that they are out of harm's way.

Tire Pressure Monitoring System. Helps to reduce wear and tear on tires which results in reduced fuel consumption. Bluetooth sensors keep the driver advised of the condition of the tires continually. Active care of your tires can result in a 10-40% increase in tire life and up to a 10% decrease in fuel consumption.

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

- 2 or 4 on the front fenders
- 2, 4, 6 or 8 on the cabin roof
- 2 on the lift mast
- 2 on the spreader carriage
- 2 rear reversing lamps

more
value.

More value.

Being the most reliable and robust range of empty container handlers in the market can give you real advantages, like higher uptime and lower total running costs.

Higher resale values.
With over 10,000 machines built to the high standard you expect from us - Kalmar empty container handlers are known for their reliability and durability which is why they demand the highest resale values in the market.

Lowering operating costs.
You get longer servicing intervals than before so you can keep your machine hard at work for longer. Plus, with the addition of advanced diagnostic tools and monitoring systems, faults can be dealt with quickly, thereby reducing any downtime.

Higher uptime, lower costs per move and high re-sale values means you can expect one thing; the best lifetime value you can expect of any empty container handler.

Safer to operate.
With a clearer view forward, backward and upward, a new ergonomically designed cabin, non-slip access surfaces with supporting handrails, plus numerous safety options to choose from including our Reverse Warning System, Alco-Lock and four overload alerts you can be sure that your operator is working in a safe environment.

More support.

Our job doesn't stop once we deliver your new empty container handlers. We can also offer a range of support services that keep your new equipment running at its optimal best. With a global network of 1500+ service and support staff, in over 100 countries, we will always have someone nearby to give you the support you need.

Kalmar Care, making sure your business never stops.
We can offer you four different types of service and maintenance contracts, for any brand of equipment. Each is designed to help you improve your operational efficiency, drive productivity and secure financial predictability. Each contract type includes a set of standardized service modules to choose from to meet your business's needs. You just need to choose which one is right for you and your day-to-day operations. Here is an overview of the four different levels:

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
- Addition of skills to existing maintenance organization

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

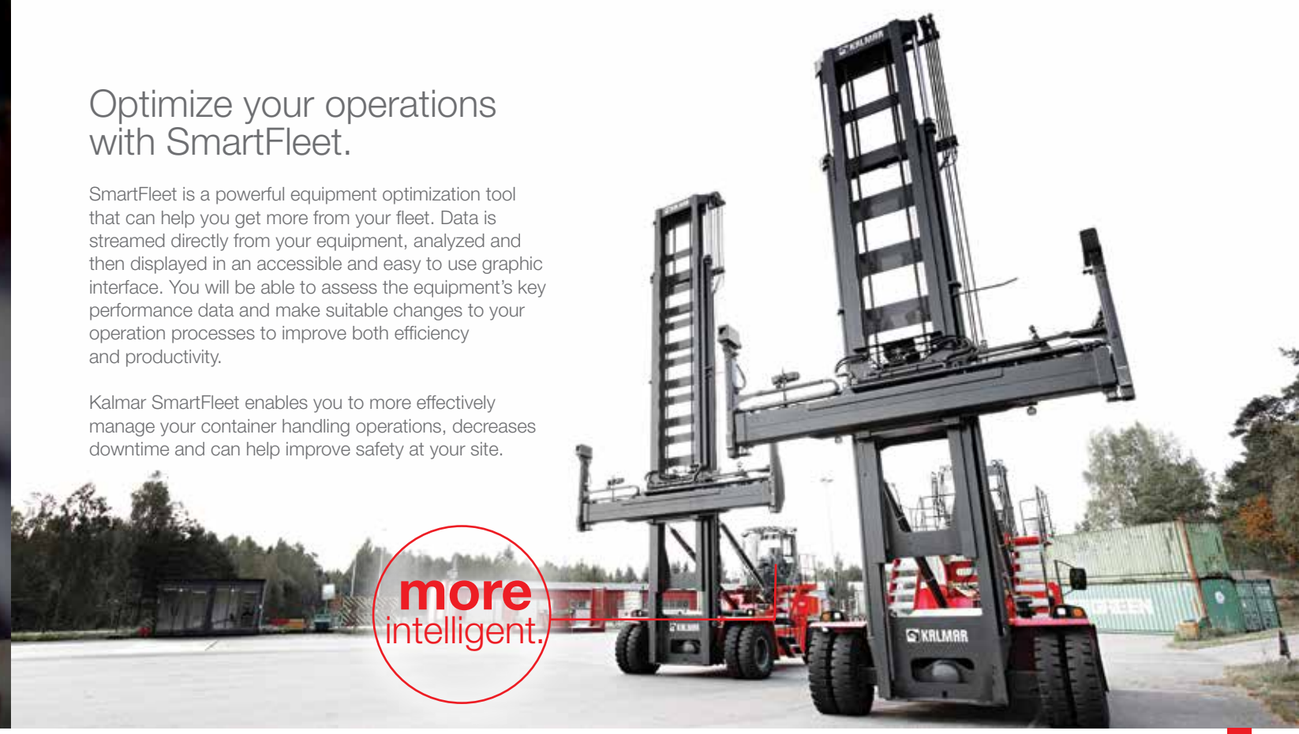
Kalmar Complete Care
We meet your complete maintenance requirements.
- Improved predictive maintenance
- Low operational risk to customer
- Reduced equipment downtime
- Reduced total cost of operation
- Increased operational predictability

Kalmar Optimal Care
We optimize your business performance.
- Guaranteed availability
- Reduced tied-in capital
- Improved business performance
- Increased peace of mind

Optimize your operations with SmartFleet.

SmartFleet is a powerful equipment optimization tool that can help you get more from your fleet. Data is streamed directly from your equipment, analyzed 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 make suitable changes to your operation processes to improve both efficiency and productivity.

Kalmar SmartFleet enables you to more effectively manage your container handling operations, decreases downtime and can help improve safety at your site.



Kalmar Genuine Parts.

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

You may also want to consider outsourcing all or part of your spare parts management and inventory control, with Kalmar Parts Care you can do just that. Kalmar Parts Care can make sure that critical spare parts are always on hand so your equipment downtime is kept at a minimum. Each Kalmar Parts Care plan is based on your individual needs, so talk to us today and see how we can lift your parts availability, while reducing your inventory costs.

Financing options for you.

Lease or rent.
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 renting options that can 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 required by your fleet. You just need to choose which leasing package and level of service and maintenance support is right for your business. Kalmar can also look at trading-in your old equipment.

No matter what your service and support needs are, make sure that you speak to your local Kalmar team first.

Kalmar Training Academy.

Our training academy offers a range of courses for both your technicians and operators.

Technicians will be given the knowledge they need to be able to maintain your new equipment in top condition. Courses are a mix of theory and hands on experience and can be held at Kalmar or at your site.

Operators will be shown how to get more from their equipment. They will learn how to improve the efficiency of their driving, what needs to be checked daily before operating, and how to get the most out of their new empty container handler.

Standard.

Kalmar DCG80-100

Kalmar DCG80-100, E5-E8 // Empty Container Handlers // 17,600 - 22,000 lbs EU stage 3 & 4 / EPA Tier 3 & 4-Final[4]

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 EN 10525
- CE-marking for trucks within EU/EEA
- ANSI/ITSDF-marking for North America trucks

Chassis
- Strong, durable heavy-duty chassis for EC-Handlers
- High mounted / rear mounted heavy-duty tilt cylinders
- LHS single access stairway (multiple steps & platform)
- LHS single stairway with safe handrails up to the cabin
- Low cabin mounting (LCM) at the rear of the truck
- Very good rear end visibility of the truck
- Open chassis with full access to the drive line
- Easy-to-open drive line cover plates (low noise)
- Lifting eyes and achor points (front & rear)
- Towing pin (rear - incasted)

Body
- Steps with anti-slip protection
- Rear view mirrors (2x) - rear on front fenders
- Strong and protective fenders (front & rear)
- Basic noise insulation kit for the complete truck

Steer Axle (rear)
- Kalmar steer axle mounted dual pivot bearings
- Extra wide track axle for increased side stability
- Steer axle with mechanical side stops (±3 deg)
- Electric servo power steering with double acting cylinder
- 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=159”-161”)
- D91-HD in heavy duty for extra high stability (W=181”)
- Strong and powerful oil-cooled Wet Disc Brakes (WDB)
- High pressure filter (10 my) for the brakes (WDB)

Drive Axle on Single Stackers (ES):
- DCG80 ES5/5 - ES8/7: D81-ND axle - width 159”
- DCG90 ES5/5 - ES8/7: D81-ND axle - width 161”
- DCG100 ES5/5 - ES8/7: D91-HD axle - width 161”

Drive Axle on Double Stackers (ED):
- DCG80 ED5/5 - ED6/5: D81-ND axle - width 161”
- DCG90 ED5/5 - ED6/5: D91-HD axle - width 161”
- DCG100 ED5/5 - ED6/5: D91-HD axle - width 161”
- DCG80 ED7/6 - ED8/7: D91-HD axle - width 181”
- DCG90 ED7/6 - ED8/7: D91-HD axle - width 181”
- DCG100 ED7/6 - ED8/7: D91-HD axle - width 181”

Wheels on Single Stackers (ES)
- DCG80 ES: Tires 12.00x24” (4x + 2x)
- DCG90-100 ES: Tires 14.00x24” (4x + 2x)

Wheels on Double Stackers (ED)
- DCG80-100 ED: Tires 14.00x24” (4x + 2x)

Drive Train (CanBus)
- Volvo and Cummins diesel engines (4 or 6 cylinder)
- Durable and strong engines with pre-heater
- Emission approval EU3A or EU4 (EPA Tier 3 or 4F)
- High power & torque with low fuel consumption
- Engine monitoring and protection system
- Fully automatic transmission DANA TE-14000
- Transmission monitoring and reverse protection
- Declutch function activated by the brake pressure
- Strong radiators for engine, transmission & brakes
- Diesel tank (99 gall) , cooling & breather filter
- Low noise muffler and tall exhaust pipe (cab roof)

Load-Sensing Hydraulics
- Load-sensing variable piston pumps (2x)
- Power-on-demand with high lift & lowering speeds
- Pumps for mast, 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)
- Power steering, power brakes & ORFS-couplings
- Hydraulic tank (83 gall), cooling & breather filter
- Mast tilt angles +3 / -3 deg (FW / BW)

Lift Mast
- Mast design for up to 8-high single & double stacking
- Duplex 2-stage mast with high mounted tilt cylinders
- 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
- Only 2 hydraulic hoses & 1 electric cable over the mast

Lift Carriage
- Carriage with strong wheels, bearings & guide pads
- Large sideshift of ±24” (total stroke 48”)
- The carriage is connected by the lift chains

Attachment Single Stacker
- Durable single main beam with strong design
- Side lift with hydraulic extension 20’-40’
- 2 lift heads with fixed twistlocks from the top
- Large sideshift of ±24” (total stroke 48”)
- MPS Mechanical Pile Slope by gravity (side tilt)
- MPS with spring-loaded vertical lift heads (0-9,8”)
- Lowering interrupt sensors for safe handling
- Safety locking, alignment pins & sensors (2x)
- 2 + 2 working LED-lights on end beam / lift head
- Twistlocks indication LED-lamp panel (green-yellow-red)

Attachment Double Stacker
- Durable single main beam with strong design
- Side lift with hydraulic extension 20’-40’
- 2 lift heads with lift hook and hydraulic side clamp
- The 2 lift hooks connects the bottom container (I)
- The 2 side clamps connects the upper container (II)
- 20ft-40ft containers are locked by the side clamps
- Large sideshift of ±24” (total stroke 48”)
- MPS Mechanical Pile Slope by gravity (side tilt)
- MPS with spring-loaded vertical lift heads (0-9,8”)
- Lowering interrupt sensors for safe handling
- Safety locking, alignment pins & sensors (4x)
- 2 + 2 working LED-lights on end beam / lift head
- Hook & clamp indication LED-lamp panel (green-yellow-red) for alignment of bottom and top containers (I + II)

Electrical System 24V
- Fully redundant 24V electrical system
- Battery box 2x12V & main power switch
- Electric service box on chassis (LHS)
- 2 working LED-lights on front fenders (head beam)
- 2 working LED-lights on mast (first cross member)
- 2 working LED-lights on spreader carriage (lift head)
- 2 working LED-lights on spreader end beams (bottom)
- 2 working LED-lights rear below cabin (when reversing)
- 2 position LED-lights on each side of the truck
- 2 tail / brake LED-lights rear in counter weight
- 4 blinker LED-lights (front - rear / left - right)
- 2 flashing LED-brake lights (when reversing)
- 1 rotating warning LED-beacon

Electronic System
- Basic SmartFleet hardware and software included
- Electronic weight scale in main display

ECO Drive Modes (EDM):
- Power mode (highest productivity)
- Normal mode (high productivity - less fuel) - default setting
- ECO mode (good productivity - lower fuel)

Cabin (EGO)

Structure
- Spacious, modern cabin with good ergonomy level
- Large windows, good visibility, in all directions
- Long instep handles on B-pillar (both sides)
- Sliding window on both sides
- Doors with air damper and key lock (L + R)
- Tinted laminated windows

Comfort
- Seat Kalmar, mech. spring, high back
- Adjustable armrest (RHS) & 2-point oraange safety belt
- Inside mounted, convex type rear view mirror (right side)
- Interior lights with fade away function
- Fully adjustable steering wheel with tilt function
- Electric adjustable operational console with lift lever, operational buttons & armrest (RHS)
- Power steering wheel with steer knob
- Electric horn
- LED background light for buttons & switches

Controls
- Electronic lift levers for mast & spreader
- Button for forward-neutral-reverse on lever/joystick
- Auto rev-up accelerator for lifting / tilting / spreader
- Electric accelerator pedal (hanging)
- Double brake pedals (L + R)
- Multi-function lever LHS:
  - 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)
- Combined horn and blinker lever
- Warning - hand brake (on/off) leaving seat
- Hour meter

Climate
- ECH, electronic controlled heating/ventilation
- Fresh air and recirculation filter
- Double wipers/washers on front window (better function)
- Single wipers/washers on roof and rear windows
- Interval wiper functions on front, roof and rear windows
- Tinted windows

Information systems
- Sauer-Danfoss machine controller DP-250 (CanBus)
- HMI based on TFT-display 3.2” x 2.2” (70 x 52 mm)
- Color display (DP-250) with automatic fault analysis
- Menu control with toggle wheel & push buttons

Operator menu:
- System voltage
- Actual gear
- Engine rpm
- Traveling 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
- Clock and date
- Operating time (hours)
- Service time indicator (hours)
- Status of heating system & AC system
- Fuel level (diesel and optional DEF)
- Estimated operating time before empty tank (hour/min)
- Service indicator
- Container counter with reset function
- Trip computer / statistics

Various warning lights & signals:
- Charging battery
- Low brake pressure
- Malfunction 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 DEF)
- Hydraulic and brake oil temperature
- Low washer fluid level

Indicator lamps:
- Head beam
- Direction indication
- Parking brake

Head-Up display for twistlock indication:
- LED indicators for alignment & container(s)

Color
- Cabin: Gray RAL 7011
- Chassis, tanks & fenders: Red RAL 3000
- Boom, attachment & axles: Black RAL 7021
- Rims: Gray RAL 7011

Documentation and Decals
- Load chart diagram inside cabin
- Machine data sign on chassis with load chart
- Warning, tire pressure & oil pressure stickers
- Information & levers/joystick stickers
- Fuse diagram
- Operator’s Manual (OM)
- Maintenance Manual (MM)
- Spare Part Catalogue (SPC)

Optional equipment.

Kalmar DCG80-100

Kalmar DCG80-100, E5-E8 // Empty Container Handlers // 17,600 - 22,000 lbs EU stage 3 & 4 / EPA Tier 3 & 4-Final[4]

Chassis

Chassis - ES Empty Single Stacker
- DCG 80-45 ES (L3=179”)
- DCG 90-45 ES (L3=179”)
- DCG 100-45 ES (L3=179”)

Chassis - ED Empty Double Stacker
- DCG 80-45 ED (L3=179”)
- DCG 90-45 ED (L3=179”)
- DCG 100-45 ED (L3=179”)

Body
- Anti slip protection on fenders and tanks
- Mud flaps in steel + rubber (front)
- Mud flaps in rubber (rear)

Steer Axle (rear)
- Wheel nut protection on steer tires
- Steer cylinder spacer (less tire wear)

Drive Axle (front)
- D91-HD in heavy duty for extra high stability (W=181”)

Wheels
- Spare tire, rim or complete wheel of various brands
- Special packages with 6-to-12 pcs (tire, rim or wheel)
- Tire dimension 14.00×24” replace 12.00x24”
- Diagonal, radial or CSE type.

Drive Trains:
- Auto engine & ignition stop, after 5 min idle
- Air intake filter, with Pre-Cleaner, raised air intake
- Start/stop function (for Volvo engine only)

Drive Trains (MP):
- DANA TE-14300, with 3+3 gears and no Lock-Up
- Cummins QSB-6,7 (EPA T3, 220 hp, 700 ft.lb, 6-cylinder, 408 in3)
- Volvo TAD-850-VE (EPA T3, 218 hp, 780 ft.lb, 6-cylinder, 470 in3)
- Volvo TAD-572-VE (EPA T4F, 218 hp, 670 ft.lb, 4-cylinder, 311 in3)
- Good performance drive line optimized for 2,100 rpm

Drive Trains (HP):
- DANA LTE-14400-LU, with 4+4 gears and with Lock-Up
- Volvo TAD-851-VE (EPA T3, 252 hp, 855 ft.lb, 6-cylinder, 470 in3)
- Volvo TAD-871-VE (EPA T4F, 252 hp, 855 ft.lb, 6-cylinder, 470 cu.in)
- Higher performance drive line optimized for 1,800 rpm
- Additional electric dual fan with radiator for engine

Load-Sensing Hydraulics
- Hydraulic accumulator for lift mast (shock dampening)
- Mast tilt angles +3 / -6 deg (FW / BW)
- Mast tilt angles +2 / -3 deg (FW / BW)
- Hydraulic longlife fine filter with by-pass (3 my)
- Load lowering safety valve for mast / spreader

Lift Mast (single stacker)
- 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”)
- Triplex (on request)

Lift Mast (double stacker)
- Duplex E5 (5+1-high 9’6” / 5+1-high 8’6”)
- Duplex E6 (5+1-high 9’6” / 6+1-high 8’6”)
- Duplex E7 (6+1-high 9’6” / 7+1-high 8’6”)
- Duplex E8 (7+1-high 9’6” / 8+1-high 8’6”)
- Triplex (on request)

Lift Carriage / Attachment
- Automatic extension 20-40 with 30 stop
- Soft landing by inductive sensor (on twistlocks only)
- Hydraulic Pile Slope by cylinders (HPS ±5 deg), the MPS with 0-9.8” end beam levelling is included
- All trucks has full lifting capacity with MPS & HPS
- Available for both single and double stackers

Attachment Single Stacker
- Twistlock spreader for wide body (TWL-WTP)
- Spreader for both standard and wide body containers
- Standard / wide body containers are 8ft / 8.5ft wide
- 2 lift heads with Wide Twistlock Position (WTP)
- Hydraulic moveable twistlocks (stroke 3”/ 76 mm)

Attachment Double Stacker
- Hook, clamp & safety wedge double spreader (HC-SW)
- Lift heads with lift hook and hydraulic side clamp
- Hydraulic safety wedge (SW) for bottom container lock
- Active safety locking of 45-53ft single containers
- 45-53ft containers are locked by safety wedge (SW)

Electrical System 24V
- 2 extra working LED-lights on fenders (forward)
- 4 extra working LED-lights on fenders (20-40ft)
- 2 extra working LED-lights on cabin roof (forward)
- 4 extra working LED-lights on cabin roof (20-40ft)
- 6 extra working LED-lights on cabin roof (20-40ft-side)
- 8 extra working LED-lights on cabin roof (20-40ft-side-rear)
- 2 extra working LED-lights on mast (40ft)
- 2 extra working LED-lights on carriage (20ft)
- 2 extra reverse LED-lights on counter weight (rear)
- 1 extra warning LED-beacon on top of mast (front)
- 1 extra entrance LED-light on left stairway + button
- 2 el. heated mirrors on front fenders (std pos.)
- 2 el. heated & adjustable mirrors on front fenders
- 1 reverse signal / alarm (buzzer when reversing)
- Radio with CD, MP3, Bluetooth, speakers (24V)
- DAB-Radio with CD, MP3, Bluetooth, speakers (24V)
- 2 x 24V sockets and 2 x 12V sockets in cabin
- 2 x 24V sockets and 2 x 5V / USB sockets in cabin
- Electric air pressure horn

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
- SmartFleet; additional functions and softwares
- VDI - Vehicle Data Interface

Speed and Lift Settings
- All settings can be changed and are programmable
- A standard default setting is done from factory
- Lift height limit; standard incl override button (def 24ft)
- Lift height limit; warning over defined height (def 24ft)
- Speed limit; standard (def 9 mph)
- Speed limit; over defined height (6 mph at 24ft)
- Speed limit; outside drive pos / tilt (6 mph at 24ft)
- Speed limit; drive with 2 containers (6 mph)
- Dynamic speed limit; 2 load levels (9/6 mph at 9.000/18.000 lbs)

Cabin

Structure
- Low cabin mounting (LCM) with dual access stairways & upper platforms
- High cabin mounting (HCM), +24”, improved visibility, dual access stairways & upper platforms
- Protection cage for cabin from falling cargo
- Front window in laminated glass (AS2)
- Hydraulic tilting cabin (stroke 10 degrees)
- Globetrotter cabin, +8” higher, ledge mount windows

Comfort
- Various seat alternatives (spring or air-cushion)
- Head rest for the seat
- Armrest with adjustment (LHS)
- Horizontal dampening/suspension of seat
- Extra trainer seat incl 2-point orange 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 mast & spreader (EGO/G)
- Electronic joystick for mast & spreader (Cobra/F-T)

Climate
- Electronic Climate Control (ECC) with AC
- Microfilter in additional to std filter
- AC/ECC switched off when door is open
- Sun visor front window (black net)
- Sun visor roof window (black net)
- Sun visor rear window (black net)
- Sun visor roof window (reflective film)
- Post/break heating

Additional equipment
- Reverse display inside cabin (7”/17 cm)
- Reverse camera connected to display in cabin
- Spreader cameras 2x (left and right)
- Reverse warning system (camera, display & sensors)
- Tire pressure monitoring system (Bluetooth)
- Diesel powered cabin heater 8 hp
- Alcolook Draeger in cabin
- Semi-automatic fire suppression system (DAFO)
- Fire extinguisher 11-13 lbs, 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 2,000 hrs

Color
- Other color than STD - on chassis (specify RAL no)
- Other color than STD - on cabin (specify RAL no) plastic foil
- Other color than STD - on rims (specify RAL no)
- Reinforced anti-corrosion protection (extra primer)

Documentation and Decals
- Extra documentation set (OM, MM and SPC) - printed copy
- Extra documentation set (OM, MM andSPC) - memory stick
- Workshop manual - engine (printed or stick)
- Workshop manual - transmission (printed or stick)
- Workshop manual - drive axle (printed or stick)
- Workshop manual - spreader (printed or stick)
- Workshop manual - all (printed or stick)

Training
- Contact Kalmar Training Center for training programs
- Working ECO driving training

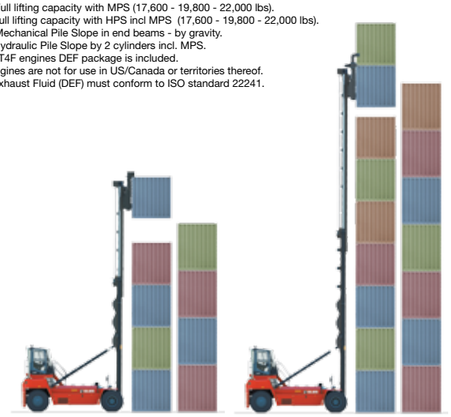
Technical information.

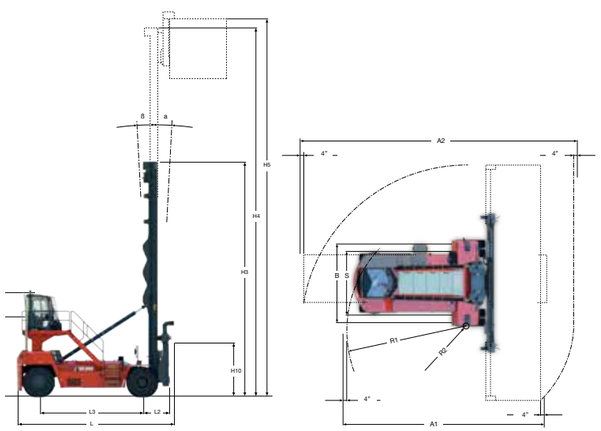
					DCG 80-45 ES				DCG 80-45 ED			
	2	Stacking model and height			ES5/5	ES6/5	ES7/6	ES8/7	ED5/5	ED6/5	ED7/6	ED8/7
MANDATES	3	Type of handling			Single Stackers				Double Stackers			
	4	Lifting capacity, with MPS or with HPS [1*]	Q1	(lbs)	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600
	5	Stacking height, no. of containers (8'6"/9'6")			5 / 5	6 / 5	7 / 6	8 / 7	5+1 / 5+1	6+1 / 5+1	7+1 / 6+1	8+1 / 7+1
	6	Spreader locking type, standard / optional			STD: Twistlocks / OPT: Twistlocks + WTP [3*]				STD: Hooks + Clamps / OPT: STD + Safety Wedge			
	7	Spreader type, extension stops, sensors			Sidelift, 20ft + 40ft stops, alignment & interrupt sensors				Sidelift, 20ft + 40ft stops, alignment & interrupt sensors			
	8	Wheelbase	L3	(in)	179				179			
	9	Load center, front of tires, with MPS or HPS [2*]	L4	(in)	47 or 49				47 or 49			
	10	Lost load center, to front face of tires	X	(in)	48				48			
WEIGHTS	11	Service weight, with MPS or HPS [2*]		(lbs)	76,500/78,900	77,800/80,200	81,100/83,600	84,400/86,900	80,500/82,900	81,800/84,200	85,100/87,500	88,400/90,800
	12	Axle load, front unloaded - rated load MPS		(lbs)	49,400/76,500	50,900/53,800	54,500/81,600	58,200/85,100	50,700/77,800	52,900/79,100	55,800/82,900	59,300/86,400
	13	Axle load, front unloaded - rated load HPS [2*]		(lbs)	52,200/79,400	53,800/80,900	57,500/84,700	61,100/88,200	53,600/80,700	55,100/82,900	58,600/86,000	62,200/89,500
	14	Axle load, rear unloaded - rated load MPS		(lbs)	27,100/17,600	26,900/17,400	26,700/17,200	26,200/16,800	29,800/20,500	29,800/20,300	29,300/20,100	29,300/19,600
	15	Axle load, rear unloaded - rated load HPS [2*]		(lbs)	26,700/17,000	26,500/16,800	26,000/16,500	25,800/16,100	29,300/19,800	29,100/19,600	28,900/19,200	28,700/19,000
WHEELS	16	Tires, type, design, thread depth			Pneumatic / Diagonal / E4				Pneumatic / Diagonal / E4			
	17	Tires, dimension (front + rear)		(in)	12.00x24"	12.00x24"	12.00x24"	12.00x24"	14.00x24"	14.00x24"	14.00x24"	14.00x24"
	18	Rims, dimension (front + rear)		(in)	8.50x24"	8.50x24"	8.50x24"	8.50x24"	10.00x24"	10.00x24"	10.00x24"	10.00x24"
	19	No. of wheels, front - rear (*driven), pressure		(MPa)	4* - 2		1.0		4* - 2		1.0	
	20	Track width (front - rear)	S1 - S2	(in)	128 - 96	128 - 96	128 - 96	128 - 96	128 - 94	128 - 94	152 - 94	152 - 94
	21	Truck width drive axle, standard / optional	B / B	(in)	159 / 161	159 / 161	159 / 161	159 / 161	161 / 181	161 / 181	181	181
	22	Drive axle (ND = Normal Duty / HD = Heavy Duty)			D81-ND	D81-ND	D81-ND	D81-ND	D81-ND	D81-ND	D91-HD	D91-HD
DIMENSIONS	23	Lift mast, type, stage, cylinders and chains			Duplex / 2-stage / 2 cylinders / 2 lift chains				Duplex / 2-stage / 2 cylinders / 2 lift chains			
	24	Mast tilt, forward – backward,standard / optional	alfa-beta	(deg)	STD: 3-3 / OPT: 3-6 or 2-3				STD: 3-3 / OPT: 3-6 or 2-3			
	25	Lift mast height, min - max	H3 - H5	(in)	336 - 592	356 - 631	405 - 730	454 - 828	336 - 592	356 - 631	405 - 730	454 - 828
	26	Lift height, min - max in twistlocks / lift hooks	H4	(in)	88 - 599	88 - 637	88 - 736	88 - 834	90 - 600	90 - 639	90 - 737	90 - 836
	27	Height cabin roof, standard / optional	H6	(in)	STD: 155 / OPT: 178				STD: 157 / OPT: 181			
	28	Seat index point (height)	H8	(in)	STD: 110 / OPT: 133				STD: 112 / OPT: 136			
	29	Truck length with spreader, MPS / HPS	L	(in)	271 / 273				271 / 273			
	30	Spreader width, twistlocks / hooks, min - max	Va - Vb	(in)	239 - 480				260 - 502			
	31	Spreader sideshift, stroke both directions (total)	V1	(in)	± 23.6 (47.2)				± 23.6 (47.2)			
	32	Spreader leveling, MPS / HPS, standard / optional		(in/deg)	STD: 0 - 9.8 / OPT HPS: ± 5 (incl MPS)				STD: 0 - 9.8 / OPT HPS: ± 5 (incl MPS)			
	33	Ground clearance, steer axle - middle - front		(in)	9.8				11.8			
	34	Aisle width, with 20ft - 40ft container	A1 - A2	(in)	417 - 559				417 - 559			
	35	Turning radius, inner / outer 20ft / outer 40ft	R1-R3-R2	(in)	45 / 265 / 368				49 / 275 / 381			
DRIVE LINE	36	Engine type, design			Diesel / 4-stroke / turbo / intercooler				Diesel / 4-stroke / turbo / intercooler			
	37	Drive line - performance levels			MP Medium Performance	HP High Performance			MP Medium Performance	HP High Performance		
	38	Engine, power - torque (ISO 3046), max		(hp / lb ft)	218 - 220 / 670 - 780	252 / 852			218 - 220 / 670 - 780	252 / 852		
	39	Fuel consumption, average diesel / DEF [3*] [5*]		(gall/h-%)	1.3 - 4.0 / 1 - 5	1.3 - 4.0 / 1 - 5			1.3 - 4.0 / 1 - 5	1.3 - 4.0 / 1 - 5		
	40	Travel speed, fwd / rev (unloaded - at rated load)		(mph)	14.9 - 14.9 / 13.7 - 13.7	15.5 - 15.5 / 15.5 - 15.5			14.9 - 14.9 / 13.7 - 13.7	15.5 - 15.5 / 15.5 - 15.5		
	41	Gradeability, max / 1.2 mph (unloaded - at rated load)		(%)	29 - 22 / 24 - 19	37 - 30 / 33 - 27			29 - 22 / 24 - 19	37 - 30 / 33 - 27		
	42	Lifting speed, unloaded - at 70% of rated load		(fpm)	108 - 98	128 - 118			108 - 98	128 - 118		
	43	Lowering speed, unloaded - at rated load		(fpm)	98 - 118	108 - 118			98 - 118	108 - 118		
	44	Transmission, gears forward / reverse			3 + 3	4 + 4 with Lock-Up			3 + 3	4 + 4 with Lock-Up		
	45	Transmission type, function, safety			Automatic powershift / reverse protection				Automatic powershift / reverse protection			
	46	Drive axle type, service brakes (drive wheels)			Differential, hub reduction, oil-cooled wet disc brakes				Differential / hub reduction / oil-cooled wet disc brakes			
	47	Drive axle, parking brake, brake release			Single big dry disc / hydraulic release				Single big dry disc / hydraulic release			
	48	Steer axle type, design, function			Heavy-duty / single cylinder / power steering				Heavy-duty / single cylinder / power steering			
OTHERS	49	Hydraulic system, type			Load-sensing (power-on-demand) / working & brake oil tank				Load-sensing (power-on-demand) / working & brake oil tank			
	50	Tank volumes, diesel - DEF [5*] - oil		(gall)	99 / 4* / 83				99 / 4* / 83			
	51	Noise, inside LpAZ / outside LwAZ (EDM's)		(dB(A))	63 - 66 / 106 - 108				63 - 66 / 106 - 108			
	52	Over Load System with warning OLS1 + OLS2		Optional	OLS-1: Lift Monitor				OLS-2: Lift Cut-off+Tilt Monitor			

					DCG 90-45 ES				DCG 90-45 ED			
	2	Stacking model and height			ES5/5	ES6/5	ES7/6	ES8/7	ED5/5	ED6/5	ED7/6	ED8/7
MANDATES	3	Type of handling			Single Stackers				Double Stackers			
	4	Lifting capacity, with MPS or with HPS [1*]	Q1	(lbs)	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800
	5	Stacking height, no. of containers (8'6"/9'6")			5 / 5	6 / 5	7 / 6	8 / 7	5+1 / 5+1	6+1 / 5+1	7+1 / 6+1	8+1 / 7+1
	6	Spreader locking type, standard / optional			STD: Twistlocks / OPT: Twistlocks + WTP [3*]				STD: Hooks + Clamps / OPT: STD + Safety Wedge			
	7	Spreader type, extension stops, sensors			Sidelift, 20ft + 40ft stops, alignment & interrupt sensors				Sidelift, 20ft + 40ft stops, alignment & interrupt sensors			
	8	Wheelbase	L3	(in)	179				179			
	9	Load center, front of tires, with MPS or HPS [2*]	L4	(in)	47 or 49				47 or 49			
	10	Lost load center, to front face of tires	X	(in)	48				48			
WEIGHTS	11	Service weight, with MPS or HPS [2*]		(lbs)	80,900/83,300	82,200/84,700	85,500/88,000	88,800/91,300	83,600/86,000	84,900/87,300	88,200/90,600	91,500/93,900
	12	Axle load, front unloaded - rated load MPS		(lbs)	50,500/80,900	52,000/82,500	55,600/86,000	59,300/89,700	51,800/82,500	53,400/83,800	56,900/87,500	60,600/91,100
	13	Axle load, front unloaded - rated load HPS [2*]		(lbs)	53,400/84,000	55,000/85,500	58,400/88,800	62,200/92,600	54,900/85,300	56,200/86,900	60,000/90,600	63,500/94,100
	14	Axle load, rear unloaded - rated load MPS		(lbs)	30,400/19,800	30,200/19,000	30,000/19,400	27,300/19,000	31,700/21,200	31,500/20,900	31,300/20,700	30,900/20,300
	15	Axle load, rear unloaded - rated load HPS [2*]		(lbs)	30,000/19,200	29,800/19,000	29,500/19,000	29,300/18,500	31,100/20,500	31,100/20,300	30,600/19,800	30,400/19,600
WHEELS	16	Tires, type, design, thread depth			Pneumatic / Diagonal / E4				Pneumatic / Diagonal / E4			
	17	Tires, dimension (front + rear)		(in)	14.00x24"	14.00x24"	14.00x24"	14.00x24"	14.00x24"	14.00x24"	14.00x24"	14.00x24"
	18	Rims, dimension (front + rear)		(in)	10.00x24"	10.00x24"	10.00x24"	10.00x24"	10.00x24"	10.00x24"	10.00x24"	10.00x24"
	19	No. of wheels, front - rear (*driven), pressure		(MPa)	4* - 2		1.0		4* - 2		1.0	
	20	Track width (front - rear)	S1 - S2	(in)	128 - 94	128 - 94	128 - 94	128 - 94	128 - 94	128 - 94	152 - 94	152 - 94
	21	Truck width drive axle, standard / optional	B / B	(in)	161 / 181	161 / 181	161 / 181	161 / 181	161 / 181	161 / 181	181	181
	22	Drive axle (ND = Normal Duty / HD = Heavy Duty)			D81-ND	D81-ND	D81-ND	D81-ND	D91-HD	D91-HD	D91-HD	D91-HD
DIMENSIONS	23	Lift mast, type, stage, cylinders and chains			Duplex / 2-stage / 2 cylinders / 2 lift chains				Duplex / 2-stage / 2 cylinders / 2 lift chains			
	24	Mast tilt, forward – backward,standard / optional	alfa-beta	(deg)	STD: 3-3 / OPT: 3-6 or 2-3				STD: 3-3 / OPT: 3-6 or 2-3			
	25	Lift mast height, min - max	H3 - H5	(in)	338 - 594	358 - 633	407 - 732	456 - 830	338 - 594	358 - 633	407 - 732	456 - 830
	26	Lift height, min - max in twistlocks / lift hooks	H4	(in)	90 - 600	90 - 640	90 - 738	90 - 837	90 - 602	90 - 641	90 - 740	90 - 838
	27	Height cabin roof, standard / optional	H6	(in)	STD: 157 / OPT: 181				STD: 157 / OPT: 181			
	28	Seat index point (height)	H8	(in)	STD: 112 / OPT: 136				STD: 112 / OPT: 136			
	29	Truck length with spreader, MPS / HPS	L	(in)	271 / 273				271 / 273			
	30	Spreader width, twistlocks / hooks, min - max	Va - Vb	(in)	239 - 480				260 - 502			
	31	Spreader sideshift, stroke both directions (total)	V1	(in)	± 23.6 (47.2)				± 23.6 (47.2)			
	32	Spreader leveling, MPS / HPS, standard / optional		(in/deg)	STD: 0 - 9.8 / OPT HPS: ± 5 (incl MPS)				STD: 0 - 9.8 / OPT HPS: ± 5 (incl MPS)			
	33	Ground clearance, steer axle - middle - front		(in)	11.8				11.8			
	34	Aisle width, with 20ft - 40ft container	A1 - A2	(in)	427 - 564				427 - 564			
	35	Turning radius, inner / outer 20ft / outer 40ft	R1-R3-R2	(in)	49 / 275 / 381				49 / 275 / 381			
DRIVE LINE	36	Engine type, design			Diesel / 4-stroke / turbo / intercooler				Diesel / 4-stroke / turbo / intercooler			
	37	Drive line - performance levels			MP Medium Performance	HP High Performance			MP Medium Performance	HP High Performance		
	38	Engine, power - torque (ISO 3046), max		(hp / lb ft)	218 - 220 / 670 - 780	252 / 852			218 - 220 / 670 - 780	252 / 852		
	39	Fuel consumption, average diesel / DEF [3*] [5*]		(gall/h-%)	1.3 - 4.0 / 1 - 5	1.3 - 4.0 / 1 - 5			1.3 - 4.0 / 1 - 5	1.3 - 4.0 / 1 - 5		
	40	Travel speed, fwd / rev (unloaded - at rated load)		(mph)	14.9 - 14.9 / 13.7 - 13.7	15.5 - 15.5 / 15.5 - 15.5			14.9 - 14.9 / 13.7 - 13.7	15.5 - 15.5 / 15.5 - 15.5		
	41	Gradeability, max / 1.2 mph (unloaded - at rated load)		(%)	29 - 22 / 24 - 19	37 - 30 / 33 - 27			29 - 22 / 24 - 19	37 - 30 / 33 - 27		
	42	Lifting speed, unloaded - at 70% of rated load		(fpm)	108 - 98	128 - 118			108 - 98	128 - 118		
	43	Lowering speed, unloaded - at rated load		(fpm)	98 - 118	108 - 118			98 - 118	108 - 118		
	44	Transmission, gears forward / reverse			3 + 3	4 + 4 with Lock-Up			3 + 3	4 + 4 with Lock-Up		
	45	Transmission type, function, safety			Automatic powershift / reverse protection				Automatic powershift / reverse protection			
	46	Drive axle type, service brakes (drive wheels)			Differential / hub reduction / oil-cooled wet disc brakes				Differential / hub reduction / oil-cooled wet disc brakes			
	47	Drive axle, parking brake, brake release			Single big dry disc / hydraulic release				Single big dry disc / hydraulic release			
	48	Steer axle type, design, function			Heavy-duty / single cylinder / power steering				Heavy-duty / single cylinder / power steering			
OTHERS	49	Hydraulic system, type			Load-sensing (power-on-demand) / working & brake oil tank				Load-sensing (power-on-demand) / working & brake oil tank			
	50	Tank volumes, diesel - DEF [5*] - oil		(gall)	99 / 4* / 83				99 / 4* / 83			
	51	Noise, inside LpAZ / outside LwAZ (EDM's)		(dB(A))	63 - 66 / 106 - 108				63 - 66 / 106 - 108			
	52	Over Load System with warning OLS1 + OLS2		Optional	OLS-1: Lift Monitor				OLS-2: Lift Cut-off+Tilt Monitor			

					DCG 100-45 ES				DCG 100-45 ED			
	2	Stacking model and height			ES5/5	ES6/5	ES7/6	ES8/7	ED5/5	ED6/5	ED7/6	ED8/7
MANDATES	3	Type of handling			Single Stackers				Double Stackers			
	4	Lifting capacity, with MPS or with HPS [1*]	Q1	(lbs)	22000	22,000	22,000	22,000	22,000	22,000	22,000	22,000
	5	Stacking height, no. of containers (8'6"/9'6")			5 / 5	6 / 5	7 / 6	8 / 7	5+1 / 5+1	6+1 / 5+1	7+1 / 6+1	8+1 / 7+1
	6	Spreader locking type, standard / optional			STD: Twistlocks / OPT: Twistlocks + WTP [3*]				STD: Hooks + Clamps / OPT: STD + Safety Wedge			
	7	Spreader type, extension stops, sensors			Sidelift, 20ft + 40ft stops, alignment & interrupt sensors				Sidelift, 20ft + 40ft stops, alignment & interrupt sensors			
	8	Wheelbase	L3	(in)	179				179			
	9	Load center, front of tires, with MPS or HPS [2*]	L4	(in)	47 or 49				47 or 49			
	10	Lost load center, to front face of tires	X	(in)	48				48			
WEIGHTS	11	Service weight, with MPS or HPS [2*]		(lbs)	86,700/89,300	88,200/90,600	91,500/93,900	94,800/97,200	87,700/90,200	89,100/91,500	92,400/94,800	95,700/98,100
	12	Axle load, front unloaded - rated load MPS		(lbs)	52,500/86,400	54,000/88,000	57,800/91,500	61,300/101,900	53,600/85,700	55,100/88,800	58,600/92,600	62,400/96,600
	13	Axle load, front unloaded - rated load HPS [2*]		(lbs)	55,300/89,500	56,900/90,800	60,600/94,600	64,200/98,100	56,400/90,600	58,000/92,200	61,200/95,700	65,300/99,400
	14	Axle load, rear unloaded - rated load MPS		(lbs)	34,400/27,500	34,200/22,500	34,000/22,000	35,500/21,800	34,200/22,300	34,000/22,300	33,700/21,800	33,300/21,400
	15	Axle load, rear unloaded - rated load HPS [2*]		(lbs)	34,000/21,800	33,700/21,800	33,300/21,400	33,100/21,200	33,700/21,600	33,500/21,400	33,300/21,200	32,800/20,700
WHEELS	16	Tires, type, design, thread depth			Pneumatic / Diagonal / E4				Pneumatic / Diagonal / E4			
	17	Tires, dimension (front + rear)		(in)	14.00x24"	14.00x24"	14.00x24"	14.00x24"	14.00x24"	14.00x24"	14.00x24"	14.00x24"
	18	Rims, dimension (front + rear)		(in)	10.00x24"	10.00x24"	10.00x24"	10.00x24"	10.00x24"	10.00x24"	10.00x24"	10.00x24"
	19	No. of wheels, front - rear (*driven), pressure		(MPa)	4* - 2		1.0		4* - 2		1.0	
	20	Track width (front - rear)	S1 - S2	(in)	128 - 94	128 - 94	128 - 94	128 - 94	128 - 94	128 - 94	152 - 94	152 - 94
	21	Truck width drive axle, standard / optional	B / B	(in)	161 / 181	161 / 181	161 / 181	161 / 181	161 / 181	161 / 181	181	181
	22	Drive axle (ND = Normal Duty / HD = Heavy Duty)			D91-HD	D91-HD	D91-HD	D91-HD	D91-HD	D91-HD	D91-HD	D91-HD
DIMENSIONS	23	Lift mast, type, stage, cylinders and chains			Duplex / 2-stage / 2 cylinders / 2 lift chains				Duplex / 2-stage / 2 cylinders / 2 lift chains			
	24	Mast tilt, forward – backward,standard / optional	alfa-beta	(deg)	STD: 3-3 / OPT: 3-6 or 2-3				STD: 3-3 / OPT: 3-6 or 2-3			
	25	Lift mast height, min - max	H3 - H5	(in)	338 - 594	358 - 633	407 - 732	456 - 830	338 - 594	358 - 633	407 - 732	456 - 830
	26	Lift height, min - max in twistlocks / lift hooks	H4	(in)	90 - 600	90 - 640	90 - 738	90 - 837	90 - 602	90 - 641	90 - 740	90 - 838
	27	Height cabin roof, standard / optional	H6	(in)	STD: 157 / OPT: 181				STD: 157 / OPT: 181			
	28	Seat index point (height)	H8	(in)	STD: 112 / OPT: 136				STD: 112 / OPT: 136			
	29	Truck length with spreader, MPS / HPS	L	(in)	271 / 273				271 / 273			
	30	Spreader width, twistlocks / hooks, min - max	Va - Vb	(in)	239 - 480				260 - 502			
	31	Spreader sideshift, stroke both directions (total)	V1	(in)	± 23.6 (47.2)				± 23.6 (47.2)			
	32	Spreader leveling, MPS / HPS, standard / optional		(in/deg)	STD: 0 - 9.8 / OPT HPS: ± 5 (incl MPS)				STD: 0 - 9.8 / OPT HPS: ± 5 (incl MPS)			
	33	Ground clearance, steer axle - middle - front		(in)	11.8				11.8			
	34	Aisle width, with 20ft - 40ft container	A1 - A2	(in)	427 - 564				427 - 564			
	35	Turning radius, inner / outer 20ft / outer 40ft	R1-R3-R2	(in)	49 / 275 / 381				49 / 275 / 381			
DRIVE LINE	36	Engine type, design			Diesel / 4-stroke / turbo / intercooler				Diesel / 4-stroke / turbo / intercooler			
	37	Drive line - performance levels			MP Medium Performance	HP High Performance			MP Medium Performance	HP High Performance		
	38	Engine, power - torque (ISO 3046), max		(hp / lb ft)	218 - 220 / 670 - 780	252 / 852			218 - 220 / 670 - 780	252 / 852		
	39	Fuel consumption, average diesel / DEF [3*] [5*]		(gall/h-%)	1.3 - 4.0 / 1 - 5	1.3 - 4.0 / 1 - 5			1.3 - 4.0 / 1 - 5	1.3 - 4.0 / 1 - 5		
	40	Travel speed, fwd / rev (unloaded - at rated load)		(mph)	14.9 - 14.9 / 13.7 - 13.7	15.5 - 15.5 / 15.5 - 15.5			14.9 - 14.9 / 13.7 - 13.7	15.5 - 15.5 / 15.5 - 15.5		
	41	Gradeability, max / 1.2 mph (unloaded - at rated load)		(%)	29 - 22 / 24 - 19	37 - 30 / 33 - 27			29 - 22 / 24 - 19	37 - 30 / 33 - 27		
	42	Lifting speed, unloaded - at 70% of rated load		(fpm)	108 - 98	128 - 118			108 - 98	128 - 118		
	43	Lowering speed, unloaded - at rated load		(fpm)	98 - 118	108 - 118			98 - 118	108 - 118		
	44	Transmission, gears forward / reverse			3 + 3	4 + 4 with Lock-Up			3 + 3	4 + 4 with Lock-Up		
	45	Transmission type, function, safety			Automatic powershift / reverse protection				Automatic powershift / reverse protection			
	46	Drive axle type, service brakes (drive wheels)			Differential / hub reduction / oil-cooled wet disc brakes				Differential / hub reduction / oil-cooled wet disc brakes			
	47	Drive axle, parking brake, brake release			Single big dry disc / hydraulic release				Single big dry disc / hydraulic release			
	48	Steer axle type, design, function			Heavy-duty / single cylinder / power steering				Heavy-duty / single cylinder / power steering			
OTHERS	49	Hydraulic system, type			Load-sensing (power-on-demand) / working & brake oil tank				Load-sensing (power-on-demand) / working & brake oil tank			
	50	Tank volumes, diesel - DEF [5*] - oil		(gall)	99 / 4* / 83				99 / 4* / 83			
	51	Noise, inside LpAZ / outside LwAZ (EDM's)		(dB(A))	63 - 66 / 106 - 108				63 - 66 / 106 - 108			
	52	Over Load System with warning OLS1 + OLS2		Optional	OLS-1: Lift Monitor				OLS-2: Lift Cut-off+Tilt Monitor			

Notes:
[1*] MPS = Full lifting capacity with MPS (17,600 - 19,800 - 22,000 lbs).
HPS = Full lifting capacity with HPS incl MPS (17,600 - 19,800 - 22,000 lbs).
[2*] MPS = Mechanical Pile Slope in end beams - by gravity.
HPS = Hydraulic Pile Slope by 2 cylinders incl. MPS.
[3*] On EPA T4F engines DEF package is included.
[4*] Tier 3 engines are not for use in US/Canada or territories thereof.
[5*] Diesel Exhaust Fluid (DEF) must conform to ISO standard 22241.





Drive lines

Truck Models		Medium Performance (MP)		High Performance (HP)	
Engine emission approvals		EU3A / EPA Tier 3	EU3A / EPA Tier 3	EU3A / EPA Tier 3	EU4 / EPA Tier 4F
Engine brand / series		Cummins QSB	Volvo Penta / D-8	Volvo Penta / D-8	
Engine model		QSB-6.7-C220	TAD-850-VE	TAD-851-VE	TAD-871-VE
Engine after treatment type		No SCR / no DEF [5*]	No SCR / no DEF [5*]	No SCR / DEF [5*]	SCR / DEF [5*]
Engine design / cylinders		6-inline / common rail	6-inline / common rail	6-inline / common rail	
Engine displacement	(cu.in (dm3))	408 (6,700)	470 (7,700)	470 (7,700)	
Power @ RPM (ISO 3046)	(hp / kW)	220 (164)	218 (160)	252 (185)	
Torque @ RPM (ISO 3046)	(lb-ft / Nm)	700 @ 1,500	781 @ 1,000-1,500	855 @ 1,100-1,600	
Max engine speed	(rpm)	2,100	2,100	1,800	
Fuel consumption – average diesel	(gall/h (L/h))	1.3 - 4.0 (5 - 15)	1.3 - 4.0 (5 - 15)	1.3 - 4.0 (5 - 15)	
Fuel consumption – average DEF [5*]	(%)	–	–	–	1 - 5
Transmission model (gears FWD + RVS)		Dana TE-14300 (3+3)		Dana TE-14400-LU (4+4 / Lock-Up)	
Transmission gear shift type		Automatic powershift		Automatic powershift	
Transmission clutch type		Torque converter		Torque converter with Lock-Up	
Drive axle brand / series		Kessler / D81 - D91 (WDB)		Kessler / D81 - D91 (WDB)	
Service brake / cooling		Wet Disc Brakes with oil cooling		Wet Disc Brakes with oil cooling	
Steer axle brand / series		Kalmar / single cylinder / extra wide		Kalmar / single cylinder / extra wide	

Information correct to our knowledge at time of publication and is subject to change.

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