



# Meet Gloria

The next generation of productivity.



**KALMAR**

# Kalmar – home of the original reachstacker.

Wherever in the world cargo is on the move, Kalmar is there. As a pioneer and world leader in cargo handling solutions, no one has been working as hard – or as long – at keeping your business ahead of the rest.

Over thirty years ago we built the world's first commercial reachstacker. Based on the idea that containers could be handled more flexibly, with higher stacking, deeper reach and improved storage capacity, the concept soon became a worldwide success. It marked a new standard in operational efficiency and reliability: one that continues to this day with one of the world's oldest operating reachstackers. Delivered in 1990, it's a machine that is still running strong in Guangzhou, China, after 40,000 hours on the job – and counting.

The industry has come a long way since those early days. Tougher schedules. Tighter margins. Stricter regulations. Driven by these demands, and based on our experience with more than 15,000 machines in more than 160 countries, we've continued to create total solutions

that support some of the toughest jobs in the world. Throughout it all, our focus has remained the same: deliver top-quality, innovative products that strengthen your business every day.

Now, with our newest series of Kalmar reachstackers, generations of hard work are once again paying off for our customers. The result is yet another leap forward in productivity, and our most comfortable, most efficient reachstacker to date.





Drivers call it the next level of performance.

# We call her Gloria.

The G-Generation reachstacker is the outcome of more than a decade of advances in operating efficiency. Through extensive testing with operators, maintenance personnel, production and terminal managers around the world, we were determined to improve every detail to better meet the needs of today's cargo handlers.

The challenges were immense. They involved tackling an endless range of user demands with the help of leading industrial designers, modular components and the latest research into ergonomics, usability and materials science.

The goal, however, was quite straightforward: to create a machine that is reliable enough to build on the success of the F-Generation, but innovative enough to achieve new levels of productivity and safety. A machine that is simply more versatile and more profitable to own.

Meet Gloria – a new reachstacker for a new generation.

# Performance with a panorama view.

At the heart of every great machine lies a great cabin. After all, the more ergonomic and intuitive your workspace is, the more you can get done at the end of the day. This is why we've once again decided to give our operators the most productive operating environment in the industry: the EGO cabin.

## Re-engineered from the inside out.

Safe, comfortable and easier than ever to control, the EGO cabin has been completely re-engineered to have as little as possible between your operators, and the load being handled. Vision is uninhibited. A patented side-tilting wheel enables new steering possibilities. And an improved, ergonomically designed joy-stick stays firmly secured in position for smoother, safer gear changes.

## All eyes ahead.

The EGO cabin brings out the best in any driver. From carefully laid out new controls, pedals and displays to the nearly seamless visibility of the curved windscreen, everything remains in sight and within easy reach – both inside and out. All so you can move more tonnes, more safely, with complete focus on the job ahead.

## Wired for performance.

All G-Generation machines are equipped with the newly developed Kalmar electrical control system, an integrated information system that allows operators, managers and service personnel to monitor nearly every aspect of their machine's performance. It's a wealth of real-time data that amounts to faster, more reliable operations, with less downtime.

## Intuitive Head Up display.

The intuitive integrated Head Up display allows you to monitor your load as symbols shift from green, to yellow, to red, showing the twist-lock and support jacks status. All of this is shown in a discreet, LED-lit unit that's carefully placed to avoid obstructing vision.

## Advanced operator diagnostics.

On top of saving countless hours on manual tasks and equipment checks, the Kalmar Information Display keeps operators better informed about their machine's status from the safety of the driver's position. It simplifies daily checkups and provides valuable statistics such as error history, fuel consumption, distance and operating hours.

Need to perform a daily lights check? You can turn them all on with the press of a button. Concerned about your machine's lubrication? The display will alert you to any warning signs in the optional central lubrication system, for example if a lubrication point is clogged. Whatever issue may arise, an on-screen code will guide you in your operator's manual. In this way, diagnostics can be performed without ever stepping out of the cab, and without ever again needing assistance to check something as simple as a brake light.



# An elevation in uptime.

The F-Generation reachstacker, already a leader in uptime, has finally met its match. With the G-Generation, we've managed to boost performance once again with improved operator interfaces and newly designed integrated components. The result? Simplified maintenance, fewer faults and a major increase in service intervals.

## Improved component integration

Under the hood, the G-Generation has taken a big leap forward in component integration and construction, thanks to close collaboration between Kalmar's R&D and service staff in the development of the new series. Segmented wires, for instance, make maintenance and replacement simpler. And with fewer exposed components, and therefore less wear on wiring, hydraulics and other connectors, you can keep your machine on the job longer with minimal service stops.

## Proactive monitoring.

With fewer connection points and wires, the new electrical control system ensures fewer faults and dramatically simplifies diagnostics, service and configuration. The electronics are based on a unique distributed and redundant CAN-bus technology, which Kalmar is the only supplier in the world to provide as standard. It automatically locates failures, compensating with backup bus wires and connectors before the fault can affect your machine. Since an individual electrical component and its backup very rarely fail together, the result is a highly reliable self-correcting system.

## Longer service life.

The first service, to be performed after 500 hours rather than today's 50 hours, offers cost savings of more than 10% within 2,000 hours of operation. The first hydraulic oil sample is taken after 4,000 hours and checked again after each additional 1,000 hours, making the span between oil changes

longer than ever before. Other major service intervals – including drive axle oil, servo filter and oil in rotation motor spreaders – have also been doubled, from 500 to 1,000 hours. Combined with a global service and after-sales network that is second to none, these improvements make the G-Generation a frontrunner in non-stop productivity.

## Easy serviceability.

Like the previous F-Generation, top covers on the frame can be quickly removed for easy maintenance of most main components. To further improve service access, the servo filter is now closer to the high-pressure filters beneath the frame, while the fine filter is now outside of the frame. This optimized accessibility is part of an ongoing effort to ensure that every machine we build is as easy to serve as it is to operate.

## Enhanced exterior protection.

In the long run, a more durable exterior is one that pays off. Not just in terms of maintenance costs, but also in added resale value. And the G-Generation is no exception. From improved anchor points for safer transport to faster-folding support jacks, it includes a range of new details designed to boost the lifetime of your machine. For good measure, we've also added thicker paint layers to the exterior and new surface treatment to bolts and screws, providing superior protection against wear, rust and damage in all climates and weather conditions.





# A superior operator experience.

In designing the new G-Generation reachstacker, our aim was to raise the operator's experience to new heights of safety, comfort and precision. Years of development and thousands of tests later, the result is an entirely new ergonomic environment – and a totally new driving experience. At the heart of it all is the cabin we call EGO.

## A better cab for better business.

A safe, efficient driver is essential to our customers' success. In fact, it's fundamental to avoiding countless unnecessary costs, from downtime and cargo damage to unfocused and unhealthy drivers. As the leader in ergonomics, we at Kalmar left nothing to chance in creating the best cabin in the market. To do so, we took into account every aspect of driver comfort and performance within our control. This includes improved ergonomic controls and pedals, easy-to-use intuitive interfaces and a wide range of other refinements.

Step into the cabin, and all of these details merge to form a single, naturally productive working environment. Viewed from the adjustable driver's seat, the first thing you may notice is the near absence of blind spots due to subtly profiled beams and a new curved windscreen. Within comfortable reach are a new joystick,

electronically adjustable working console and a patented side-tilting steering wheel, all ergonomically designed to minimize fatigue whilst enabling optimal load handling possibilities.

Surrounding you in the cabin is a seamless operating environment tailor-made for efficient driving, with all instruments and monitors well placed and thoughtfully designed. For added comfort, as in the previous generation, a standard Electronic Climate Control (ECC) system keeps the temperature constant, and the air well circulated and filtered.

The combined effect is a fully controlled workspace that keeps you as an operator safer and more alert – with nothing standing between you and a productive day's work.

### Endless visibility.

A totally new, open cabin design for optimized visibility at all angles. Smart profiles and curved windows combine to give exceptionally strong forward, diagonal and rearward visibility. The sensation is almost like working outdoors.

### G-Generation joystick.

The new joystick with built-in gear knob is designed to improve driving efficiency. It is optimized for maximum lifting capacity and ergonomically enhanced to reduce arm, wrist and finger fatigue.

### Adjustable multi-seat.

The fully integrated Kalmar seat has been carefully developed to ensure the best possible comfort and sitting posture for long shifts and demanding operations.

### High-capacity wipers.

With over 90% curved windscreen drying surface, these wipers provide optimal visibility for higher productivity and safety.

### Comfort pedals.

A new, flexible pedal system with adjustable pedal angles for minimal strain on the foot. A floor-based solution with a hanging pedal feel, so you can keep driving hard with less fatigue.

### Climate package.

A complete, flexible climate package that stands up to the high demands of the climate-tested EGO cabin. Large air intakes mean easy filter replacement in the front, whilst well dimensioned and carefully designed components provide superior interior comfort.

### Ergonomic steering wheel.

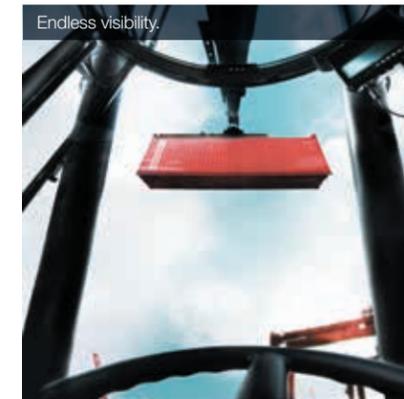
The patented new steering wheel is engineered to reduce stress and increase productivity through carefully tested ergonomic design. It's not only adjustable, but can also be tilted at an angle to the side for comfortable maneuvering in any situation.

### Work console.

The operator's extended arm, it's easy to adjust, easy to use and simple to understand. Here you'll find all the controls, switches and indicators necessary for efficient operation, in a flexible and ergonomic design. The console consists of clear, well-placed panels as well as controls for data display and machine control systems.

### Intuitive interfaces.

An enormous amount of groundwork has helped to raise the human-machine interface (HMI) to a new level. This includes sight, sound, touch, spatial sense and intuition, all in one logical, balanced and user-friendly design. At the center of it all is the 4.3" color Kalmar Information Display.



Endless visibility.



High capacity wipers.



Ergonomic steering wheel.



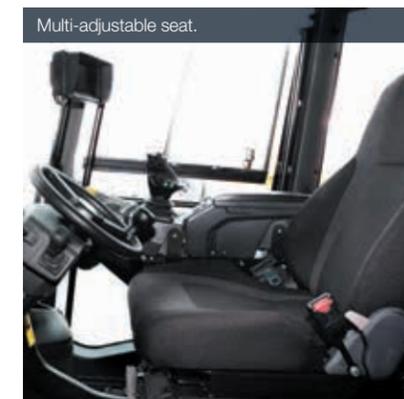
G-Generation joystick.



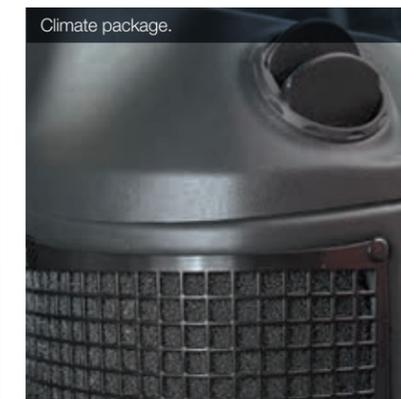
Comfort pedals.



Work console.



Multi-adjustable seat.



Climate package.



Intuitive interfaces.



## Reduce waste and lower emissions.

Whether you're striving to save on fuel or meet tough emissions standards, the objectives are the same: to consistently reduce waste and increase operational efficiency. Thanks to a range of smart functions and driver training programmes, operators get all the assistance they need to minimize fuel costs whilst meeting even the strictest environmental regulations.

### Kalmar Eco Drive Modes (EDM).

The G-Generation allows you to choose from among three different driving modes, each optimized to meet the needs of your business. For maximum performance, measured in tonnes moved per hour, choose Power mode. For higher profitability, with up to 10% fuel savings per tonne of cargo, choose Normal mode. And when total cost of operations outweighs the need for performance, Economy mode allows you to save even more fuel per hour, with up to 20% in reduced fuel consumption.

### Automatic engine shutdown.

This optional feature, which can be programmed for any time interval you choose, allows you to decide exactly when your vehicle should shut down when not in motion. Set it for ten seconds, for example, and your engine will automatically turn off after ten seconds of idling. This allows you to effortlessly reduce fuel costs, component wear and environmental impact.

### Optional tire pressure monitoring.

Maintaining optimal tire pressure is an important safety measure. But it's also critical to saving fuel and preserving the condition of your tires whilst protecting the environment. This is why the G-Generation now offers an optional integrated tire pressure monitoring system that gives the operator constant updates on the pressure of each individually monitored tire. It's an effective way to prevent blowouts whilst ensuring that operators have greater control over another key factor in fuel efficiency.

### Optional start/stop function.

An optional start/stop function can also be added to automatically activate and deactivate the machine. In addition to reducing unnecessary emissions and extending the lifespan of components, this makes it possible to achieve up to 10% in fuel savings.

### Efficient LED lighting.

The G-Generation cuts down on significantly on energy consumption. LED lights are now standard features throughout the machine, in all cabin switches and indicator lamps, the boom's rotating beacon, and the twistlock indicators on the boom nose, chassis and Head Up display. Each light has a life span of up to 30,000 hours, which is an exponential increase in efficiency over standard lighting.

### Sharpen your driving skills at the Kalmar Training Academy.

Along with a high quality machine, skilled drivers are our customer's greatest assets. With the Kalmar Training Academy, we help to make both of these investments more profitable for your business. Operator training courses, which teach safer, more efficient operating skills, can be held anywhere in the world - and even on-site with customers in realistic working environments. In particular, our EcoDriving courses help drivers to extend component life, minimise maintenance costs and reduce fuel consumption by up to 30%. Simply by learning new techniques, every driver can help make a measurable impact on your machine's total cost of operation - for years to come.

[ktc.kalmarglobal.com](http://ktc.kalmarglobal.com)



## Guaranteed to save you thousands.

Knowing exactly what your fuel costs are going to be each month gives you a greater level of financial predictability, which is why Kalmar is offering a Fuel Saving Guarantee with each of its Eco Reachstackers.

### Guaranteed to deliver.

With an agreed and fixed level of fuel consumption, based on a set of agreed metrics, you'll have complete control over your variable fuel costs. Should the fuel usage levels exceed the guaranteed levels of fuel consumption, Kalmar will compensate you for the additional fuel cost with a one off payment.

The fuel saving guarantee also provides your drivers with specialist training so they can get the most out of the machine. You also get connected with Kalmar Insight, giving you the ability to track and monitor your reachstacker and take immediate actions to optimize its operational efficiency.

Based on months of real operational data collected through Kalmar Insight, you can see the clear reduction in fuel costs and emissions between older machines and our new Kalmar Eco Reachstacker.

### Kalmar Eco Reachstacker

Actual average operating data for 2000 running hours.

Gallons of fuel **8,789**  
Dollars (US) **26,279**  
Pounds of CO<sub>2</sub> **196,000**

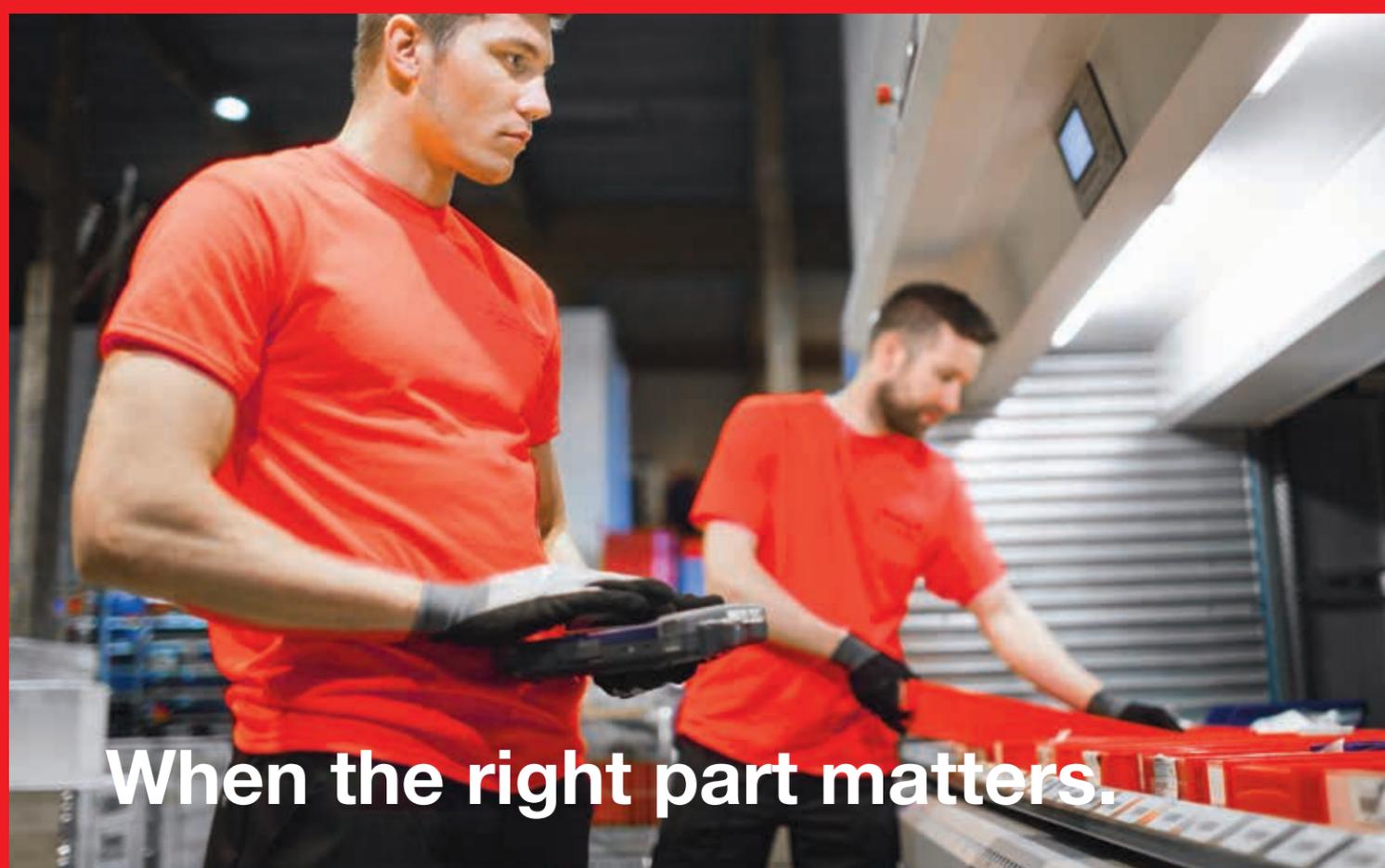


Saving you **up to 25%** in fuel costs in comparison to a recent machine.

Saving you **over 40%** in fuel costs in comparison to an older machine.

	5 year old machine	10 year old machine
Gallons of fuel	10,849	12,454
Dollars (US)	32,438	37,237
Pounds of CO <sub>2</sub>	242,000	277,000

Calculations and assumptions: Fuel consumption data has been collected over a six month period using Kalmar Insight with an Eco Reachstacker, a 5 year old and a 10 year old reachstacker operating normally, with comparable idling time. We have used the following metrics for these calculations: 2000 operating hours per year, fuel at \$2.99/gallon and 10143 grams of CO<sub>2</sub> being produced per gallon of fuel used.



**When the right part matters.**

**Improve your fleet performance and your business.**

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.

### Financing options for you.

You may choose to buy your new Eco Reachstacker outright or consider leasing or renting your equipment. There are a range of leasing and renting options that give you the financial predictability you need and the option to upgrade your equipment after a fixed period. With our leasing package, you can focus on your core operations, while all your service and maintenance needs are covered. Kalmar can also help you with trading-in your old equipment.

### Optimize your reachstacker with Kalmar Insight.

Kalmar Insight is a performance management tool for cargo and material handling, which gives you a valuable and easy to use overview of your daily operations based on equipment status and performance. Making it quicker for you to take action on relevant information that will help you improve your operations, your equipment's performance and your business.

Kalmar Insight\* comes fitted in all new Kalmar machines and can be retrofitted to existing Kalmar machines or those built by other manufacturers. Kalmar Insight is included when the Eco Reachstacker is chosen with a Fuel Savings Guarantee.



View each machine's movements as they occur.



View each operator's performance in real time.



Plan your maintenance and spare parts needs.



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

Container handling.



Industrial handling.



# Tailor-made solutions for your business.

More ways to get the most from your machine.

The G-Generation is supported by a wide range of customization options and driver training services.

The basic model of the G-Generation is generously equipped with many new features as standard. In addition to a number of customizable cabin features, you can adapt your G-Generation reachstacker with an endless array of options and attachments for different segment applications.

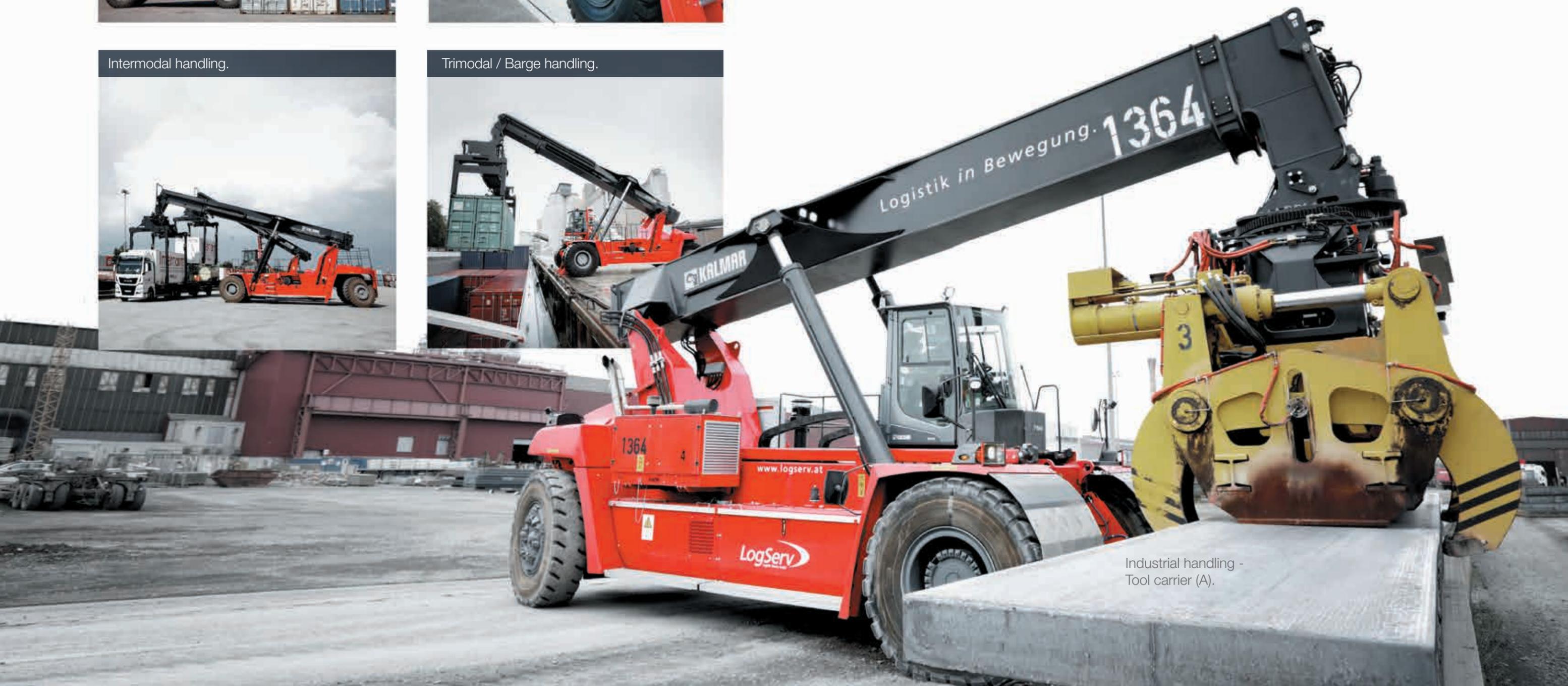
Based on your specific needs, the G-Generation reachstacker is available with a complete range of standard and customized features, attachments and more.

Your machine can be configured with wheelbases from 236" to 364", together with powerful and fuel-efficient drivelines. The new G-Generation reachstackers are available for container, intermodal, barge and industrial handling. Whatever your application, our aim is to help adapt your reachstacker for the best possible lifetime utilization.

Intermodal handling.



Trimodal / Barge handling.



Industrial handling - Tool carrier (A).



# Gloria options.

Kalmar has an extensive list of options available that can help improve operational safety or lower your fuel consumption. You choose which are right for you.

## Kalmar safety 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 breathalyser.



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

- 2 or 4 on the front mud guards
- 2, 4 or 6 on the lift boom
- 2 or 4 on the spreader
- 2 more on rear counter weight.

## Kalmar eco-efficiency options.



**Start/Stop function.** An optional start/stop function can be added to automatically activate and deactivate the machine. In addition to reducing unnecessary emissions and extending the lifespan of components, this makes it possible to achieve up to 10% in fuel savings.



### **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. Active care of your tires can result in a 10-40% increase in tire life and up to a 10% decrease in fuel consumption.



### **Kalmar Speed Limitation System.**

The Kalmar Drive Speed Limitation System automatically restricts the speed at which your equipment can be operated, helping to reduce wear and tear as well as fuel consumption.



### **Reduced Steering Radius System.**

By reducing the overall steering radius of your reachstacker you will reduce wear and tear, extending the life of your tires.

# Kalmar Load Measurement System.



The Kalmar Load Measurement System, which is SOLAS compliant†, automatically weights and records the load your machine is handling.

This information can be printed out in the operator's cabin or sent digitally to an external reporting system like Kalmar Insight. This will allow you to review and monitor individual loads, overloading and load distribution.

# Power that's built to last.

The Kalmar G Generation is equipped with either Volvo or Cummins engines, together with five speed ZF transmission. Reliable and fuel efficient, they are prepared for both US EPA Tier 3† and 4-Final. Even from low revs, they supply ample power and torque for rapid acceleration and safer maneuverability.



Kalmar Reachstackers		DRG420-1300						
Engine emission approvals		Tier 3 / EU III	Tier 3 / EU III	Tier 3 / EU III	Tier 4F / EU IV	Tier 4F / EU IV	Tier --- / EU V	Tier --- / EU V
Engine emission brand		Cummins	Volvo	Volvo	Volvo	Volvo	Volvo	Volvo
Engine model		QSM-11-C350	TAD-1151-VE	TAD-1152-VE	TAD-1171-VE	TAD-1172-VE	TAD-1181-VE	TAD-1182-VE
Engine after treatment type		No SCR	No SCR	No SCR	SCR	SCR	SCR	SCR
		No DEF	No DEF	No DEF	DEF	DEF	DEF	DEF
		No filter	No filter	No filter	No filter	No filter	Particle filter	Particle filter
Engine type		6-inline	6-inline	6-inline	6-inline	6-inline	6-inline	6-inline
Engine displacement	(L)	10,80 / 660	10,84 / 661	10,84 / 661	10,84 / 661	10,84 / 661	10,84 / 661	10,84 / 661
Rated and max power	(hp)	350 / 372	361 / 361	382 / 382	361 / 361	382 / 382	361 / 361	382 / 382
Max torque	(lb-ft)	1350	1317	1429	1317	1429	1317	1429
Max engine speed	(rpm)	2100	2100	2100	2100	2100	2100	2100
Fuel consumption - average diesel	(gal/h)	3.7 - 5.3	3.7 - 5.3	3.7 - 5.3	3.7 - 5.3	3.7 - 5.3	3.7 - 5.3	3.7 - 5.3
Fuel consumption - average DEF	%	-	-	-	1 - 5	1 - 5	3 - 7	3 - 7
ECO Drive Modes (EDM) / modes		3 modes / Power - Normal - Eco						
Transmission brand / shift type / gears		ZF ErgoPower / Automatic powershift / forward 5 gears + reverse 3 gears (5 + 3)						
Transmission clutch type		Torque converter						
Transmission model*		5WG-261 (LU)	5WG-261 (LU)	5WG-311 (LU)	5WG-261 (LU)	5WG-311 (LU)	5WG-261 (LU)	5WG-311 (LU)
Transmission clutch type		Lock-up clutch (efficiency package)						
Drive axle brand / series		Kessler D102 / D111 (WDB)*						
Service brake / cooling		Wet Disc Brakes with oil cooling						
Steer axle brand / series		Kalmar / single cylinder / extra wide						
Alternator, power	(W)	AC - 2800	AC - 4200					
Alternator, voltage x current	(V x Amp)	28 x 100	28 x 150					

\* Wheelbase WB = 236" - 295" have D102 and all combinations of engines and transmissions.  
Wheelbase WB = 325" - 364" have D111, engines 1152 / 1172 / 1182 and transmission 5WG-311 (LU).

† Tier 3 engines are not for use in US/Canada or territories thereof.

† Load Measurement System is not SOLAS certified in US/Canada.

# Standard.

Kalmar DRG 420S-450S (S = Container - Top Lift)
Kalmar DRG 450C-450C (C = Intermodal - Combi Lift)
Kalmar DRG 500A-540A (A = Industrial - Tool Carrier)
Kalmar DRG 570Z-600Z (Z = Industrial - Lift Hook)

**Norms, Standards and Regulations**

- Safety Low & High Lift Trucks ANSI/ B56.1
- ANSI/ITSDF-marking for North America trucks
- Machinery Directive 2006/42/EC
- Safety Variable Reach Trucks EN 1459+A3
- Stability Variable Reach Trucks EN 1459+A3
- CE-marking for trucks within EU/EEA

**Chassis**

- Strong and durable heavy-duty chassis
- Safe access steps, platform & hand rails (LHS)
- Long bottom access step (on both sides)
- Lifting eyes and anchor points (front & rear)
- Good rear end visibility of the truck
- Towing pin (rear)

**Body**

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

**Steer Axle (Rear)**

- Kalmar steer axle mounted dual pivot bearings
- Orbitrol power steering with double acting cylinder
- Wheel nut protection on steer tires

**Drive Axle (Front)**

- Kessler planetary axle with differential drive
- Wide axle for high side stability (163")
- Oil-cooled Wet Disc Brakes (WDB)
- High pressure filter (10 mμ) for the brakes
- Brake oil tank (37 gal), cooling & breather filter

**Wheels (Tires & Rims)**

- Strong wheels (tires and rims) in 18.00x25", 18.00x33", 21.00x35" and 24.00x35" (6x)

**Drive Train**

- Volvo D11, EU stage 3/4/5 (EPA Tier 3 & 4F)
- Cummins, QSM-11 EU stage 3 (EPA Tier 3)
- 6-cylinder diesel engines with pre-heater
- High power & torque with low fuel consumption
- Engine monitoring and protection systems
- Automatic ZF transmissions 5WG-261/5WG-311
- Precise, soft and efficient shifting of both gears and directions with 5 + 3 gears (F/R)
- Lock-Up clutch included from Q4-2019/Q1-2020
- Transmission monitoring and reverse protection
- Heavy-duty radiators for engine, transmission, brakes & hydraulics

**Load-Sensing Hydraulics**

- Load-sensing variable piston pumps
- Pumps for boom, spreader, brakes & steering
- Vane pumps for brake & oil cooling (2x)
- Return filters for the work hydraulics (2x/10 mμ)
- Hydraulic long-life fine filter with by-pass (5 mμ)
- Servo filter for the work hydraulics (10 mμ)
- Pressure filter for the brakes (10 mμ)
- Regeneration high-speed lifting & extension
- Boom end-damping (in-out/up-down/20-40")
- Hydraulic tank (158 gal), cooling, breather filter & ORFS-couplings

**Lifting Boom**

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

**Attachment**

- Top Lift (S), 99,000 lbs, 20-40', MPS, TWL, 4 lift hooks, sideshift and rotation
- Combi Lift (C), 99,000 lbs, 20-30-40', HPS, TWL, 4 lift legs, 4 hooks, end tilt-lock, sideshift & rotation
- Tool Carrier (A), max 143,000 lbs, MPS, TWL (98" x 30"), 4 lift eyes, sideshift and rotation
- Lift Hook (Z), max 286,000 lbs, dual hook, free pivot, free rotation and 4 lift eyes (no rotation)
- S-C-A = 4 floating twistlocks, LED indication lamps and 2 LED work lamps
- S-C-A = Safety locking, alignment pins (4x) and sensors (4x)
- S-C-A = Rotation +195º/-105º (2 motors and 2 brakes)
- S-C-A = Lift hooks for slings on end beams (4x)
- S-A = Mechanical Pile Slope MPS ±5º
- C = Hydraulic HPS ±5º
- Large sideshift (S-C = ±31" / A = ±17")

**Electrical System 24V**

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

**Cabin (EGO)**

**Structure**

- Spacious, modern cabin with good ergonomics
- Large windows, good visibility, in all directions
- Manual moveable cabin (stroke 93")
- Step for roof access
- Instep handle (LHS)
- Sliding window on both sides
- Doors with air damper and key lock (L + R)
- Tinted laminated windows

**Comfort**

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

**Controls**

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

**Climate**

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

**Information Systems**

- Color display & automatic fault analysis
- Menu control with toggle wheel & push buttons
- Electronic safety, overload, scale & synchronized lift functions
- Longitudinal Load Moment Indicator (Pop-Up Menu)
- Longitudinal Load Moment Control (Pop-Up Menu)

**ECO Drive Modes (EDM)**

- Power mode
- Normal mode
- Eco mode

**Operator menu:**

- System voltage
- Engine rpm
- Travelling speed (km/h or mph)
- Hydraulic oil temperature
- Transmission oil temperature
- Engine oil pressure & coolant level
- Engine oil level
- Clock and date
- Load info (lbs) & Load Center info (in)
- Boom extension & Boom angle
- Operating time (hours)
- Service time indicator (hours)
- Boom angle and Boom extension
- Electronic weight scale functions
- Status of Heating, Ventilation and AC system (HVAC)
- 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
- Failure indicator
- Safety system disconnected
- High engine coolant temperature
- Low engine coolant level
- Low engine oil pressure
- Preheating engine
- Transmission oil temperature
- Low fuel level
- Hydraulic oil temperature

**Indicator lamps:**

- Direction indication
- Parking brake

**Fleet Management**

- Equipped with telemetric hardware for Kalmar Insight

**Color**

- Cabin: Iron-Grey RAL 7011
- Chassis, tanks & mudguards: Red RAL 3000
- Boom, attachment & axles: Black RAL 7021
- Rims: Iron-Grey RAL 7011

**Documentation and Decals**

- Load chart diagram inside cabin
- Machine data sign on chassis incl. load chart
- Warning, tire pressure & oil pressure stickers
- Information & joystick stickers
- Fuse diagram
- Instruction manual
- Maintenance manual
- Spare parts catalog

**Warranty**

- Kalmar warranty 24 months / 4000 hours

# Options.

Kalmar DRG 420S-450S (S = Container - Top Lift)
Kalmar DRG 450C-450C (C = Intermodal - Combi Lift)
Kalmar DRG 500A-540A (A = Industrial - Tool Carrier)
Kalmar DRG 570Z-600Z (Z = Industrial - Lift Hook)

**Chassis**

- DRG ranges in Toplift (S), Intermodal (C)
- Tool Carrier (A) and Lift Hook (Z)
- Wheelbases in 236" - 295" (Gloria range)
- Wheelbases in 325" - 364" ( Super Gloria range)

**Body**

- Anti slip protection on fenders and tanks
- Mud flaps (front or/and rear)
- External rear view mirrors (2x)
- Noise insulation kit for the entire truck
- Storage boxes (2x) left and right tank

**Steer Axle (Rear)**

- Steer cylinder spacer (less tire wear)

**Wheels (Tires & Rims)**

- Spare wheels, tires and rims for 18.00x25", 18.00x33", 21,00x35" and 24,00x35"

**Drive train**

- Volvo TAD1151VE (355 hp, 1316 lb-ft, Tier 3<sup>1</sup>) and ZF 5WG-261 (5+3 gears with Lock-Up)
- Volvo TAD1152VE (382 hp, 1429 lb-ft, Tier 3<sup>1</sup>) and ZF 5WG-311 (5+3 gears with Lock-Up)
- Volvo TAD1171VE (355 hp, 1316 lb-ft, Tier 4F) and ZF 5WG-261 (5+3 gears with Lock-Up)
- Volvo TAD1172VE (382 hp, 1429 lb-ft, Tier 4F) and ZF 5WG-311 (5+3 gears with Lock-Up)
- Volvo TAD1181VE (355 hp, 1316 lb-ft, EU Stage V) and ZF 5WG-261 (5+3 gears with Lock-Up)
- Volvo TAD1182VE (382 hp, 1429 lb-ft, EU Stage V) and ZF 5WG-311 (5+3 gears with Lock-Up)
- Cummins QSM11C350 (350 hp, 1350 lb-ft, Tier 3<sup>1</sup>) and ZF 5WG-261 (5+3 gears with Lock-Up)
- Engine heater incl. cab heater
- Engine/hydraulic oil heater, cab heater-interlock
- Start/stop function (to save fuel and emissions)
- Automatic engine and ignition stop at idle
- Pre-cleaner air intake incl raised air intake
- Various programmable speed limitations
- ZF transmission oil heater

**Load-Sensing Hydraulics**

- High pressure filter

**Lifting boom**

- Duplex 2-stage S5 (5/5, H4 = 594"-598")
- Duplex 2-stage S6 (6/5, H4 = 634"-638")
- Duplex 2-stage S6H (6/6, H4 = 697"-701")
- Duplex 2-stage C5 (5/5, H4 = 586"-590")
- Duplex 2-stage A5 (5/5, H4 = 590"-594")
- Duplex 2-stage Z (-/-, H4 = 512")
- Lifting boom outreach cylinder stroke, S5=275", S6=303" and S6H=334"

**Attachment**

- Tilt function F/R ±5º, tilt lock, speed 3mph
- Hydraulics Pile Slope, HPS ±5º (side tilt), incl tilt lock and speed 3 mph
- Rotation stop at ±25º (incl override switch)
- Automatic extension 20'-40' incl 30' stop
- Barge: Overhigh Folding Legs (L=63"/79")
- Barge: extended boom nose (L=39"/63"/79")
- 2 extra lift eyes, center of spreader (2 x 49,000 lbs)
- 4 extra lift eyes, middle of spreader (4 x 24,500 lbs)
- Soft landing with ultrasonic sensor (less noise)
- Twistlock rubber damper (3.9" longer)
- Extended twistlocks 11.8" (9.8" longer)
- Cylinder extension 20'-40' on standard / Tilt / HPS
- WTP Top Lift (Wide Twl Pos), HPS ±5º, 30'-35' stop, TWL = 90"-96"

- Big Tilt 0-55º, 99,000 / 70,000 lbs, sideway
- Big Tilt 0-55º, 99,000 / 70,000 lbs, lengthway
- Big Tilt with hydraulic door opener
- Coil ram, 77,000 lbs, coil ID/OD = 20"/118", slave attachment for 20ft or Tool Carrier
- Lift hook (1x) + lift eyes (4x), max 110,000 lbs, slave attachment for 20ft or Tool Carrier
- Various industrial lift units, mounted in slave attachments for 20ft or Tool Carrier

**Electrical System 24V**

- Radio with CD / MP3 / Bluetooth
- Extra sockets 2x24V+2x12V (in door columns)
- Extra sockets 2x24V+2x5V USB (door columns)
- Electric air pressure horn
- Height limitation system for lifting boom
- Load center limitation for lifting boom
- Speed limitation, please specify km/h
- Various speed limitations (with/without load)
- Speed warning at 9 mph
- Speed limitation outside transport mode
- Extra working light, LED 2x, on front mudguards
- Extra working light, LED 4x, on front mudguards
- Extra working light, LED 2x, on spreader
- Extra working light, LED 2x, middle of boom
- Extra working light, LED 4x, front of boom
- Extra reverse light, LED 2x, on rear light bracket
- Extra rotating beacon, LED, in boom nose front
- Extra rotating beacon, LED, right side on CW
- Extra rotating beacon, LED, left side on CW (flash light replacing STD beacon on boom)
- Nato starter socket 24V (1x)

- Color display TFT-7", inside cabin choose type of camera(s) below:
  - Reverse camera, 1x, rear on counter weight
  - Front chassis camera, 1x, above drive axle
  - Front of outer boom, 1x, facing forward
  - Below inner boom, 1x, facing forward
  - Twistlock cameras, 2x, in spreader end beams
  - Combi legs camera, 2x, facing down on trailer
- Reverse warning system, TFT-7" display, reverse camera, 4 rear sensors
- Forward warning system, TFT-7" display, reverse camera, 4 rear sensors
- Electric heated mirrors, front fender/standard pos
- Electric heated & adjustable mirrors, front fenders/standard pos
- Remote control unit for spreader and boom
- Tire pressure monitoring system (Bluetooth)
- Cabin heater incl 220V outlet
- Diesel powered cabin heater 5 kW
- Alcolock Draeger in cabin

**Cabin**

**Structure**

- Hydraulic sliding cabin (stroke 93"), anti-collision function, avoid load to hit cabin front
- Hydraulic elevating cab (stroke 90")
- position forward on right side
- Speed limitation depending on cabin position
- Extended rear cabin window 3.9"

**Comfort**

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

**Controls**

- Lever steering incl switch for forward/reverse
- Mini-wheel steering incl F-N-R switch
- Joystick Caldaro Cobra (model F/T generation)
- Override key switch

**Climate**

- Sun visor front-roof-rear windows (of black net)
- Sun visor roof window (of reflecting film)
- Microfilter in additional to standard filter
- AC/ECC switched off when door is open
- Post-heating (break heater function)

**Additional Equipment**

- Enhanced Safety Package including:
  - Speed limitation outside transport mode
  - Reverse warning system including sensors, camera and displays in cab
  - Tire pressure monitoring system
  - Adjustable speed limiter (default 9 mph)
  - Seat belt interlock (machine will not go in gear if seatbelt is off)
- Semi-automatic fire suppression system
- Tool kit
- Extra sound insulation - reduction 3 dB(A)
- Lockable fuel cap
- Central greasing (base truck + steering)
- Central greasing (entire spreader)
- Filter kit 2,000 - 4,000 hrs

**Information Systems**

- VDI - Vehicle Data Interface

**Fleet Management**

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

**Kalmar Load Measurement System**

- Semi-automatic weight checking and recording system including time, date and load
- SOLAS compliant (VGM - Verfied Gross Mass)

**Color**

- Other RAL color than standard, chassis
- Special and multiple colors, chassis
- Other color than standard, striping foil
- Reinforced anti-corrosion protection

**Documentation and Decals**

- Extra set of documentation
- Workshop manuals
- Volvo trouble shooting and repair kit
- Load chart lbs/inch in cab & sign "no riders"
- Documentation on CD or memory stick

**Training**

- Various training packages, for drivers, service, maintenance, software etc
- Contact Kalmar Training Center for more information and planning

**Warranty**

- Extended warranty 36 months / 6000 hours.

LHS - Left Hand Side

RHS - Right Hand Side

† Tier 3 engines are not for use in US/Canada or territories thereof.

# Container handling.

			DRG420-60S5	DRG450-60S5	DRG450-60S5M	DRG450-60S5X
MAIN DATA	Type of handling		Container handling			
	Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3 - Q4 (klbs)	92.5 - 55 - 26	99 - 59 - 28	99 - 66 - 33	99 - 77 - 39
	Lift capacity, row 1-2-3-4 (with support jacks)	Q1 - Q2 - Q3 - Q4 (klbs)	-			
	Load center, from front face of tires, row 1-2-3-4	L4 - L5 - L6 - L7 (in)	77 - 150 - 249			73 - 150 - 249
	Stacking capacity, in container row 1-2-3-4 of 8'6" / 9'6"		5/5 - 5/4 - 4/3			
	Lost load center, to front face of tires	X (in)	33			37
Wheelbase	L3 (in)	236				

WEIGHTS	Service weight, standard truck	(lbs)	144403	148592	153001	170859
	Axle load, front at load center L4, unloaded - loaded	(no support jacks) (lbs)	76059 - 211864	76280 - 221785	76280 - 221785	78485 - 223990
	Axle load, front at load center L5, unloaded - loaded	(no support jacks) (lbs)	85760 - 183645	85980 - 191582	85980 - 203266	88626 - 226856
	Axle load, rear at load center L4, unloaded - loaded	(lbs)	68343 - 25133	72312 - 26015	76721 - 30424	92374 - 46077
	Axle load, rear at load center L5, unloaded - loaded	(lbs)	58643 - 15873	62611 - 16535	67021 - 15873	82232 - 21164

WHEELS	Tires, dimension, PLY rating, star rating <sup>1</sup>		18x25",PR40/E4	18x25",PR40/E4	18x25",PR40/E4	18x33",PR36/E4
	Tire pressure (front - rear)	(psi)	145 - 145			
	Track width (front - rear)	S1 - S2 (in)	119 - 102			119 - 110

DIMENSIONS	Boom angle, min - max	(deg)	0 - 60		0 - 60	
	Boom height, min - max	H3 - H5 (in)	181 - 717		185 - 720	
	Chassis height - top of boom fixation, max	H2 (in)	155		159	
	Lift height, max	H4 (in)	594		598	
	Boom reach stroke	(in)	276		276	
	Truck height - seat height	H3 - H8 (in)	102		106	
	Overall truck length with boom	L (in)	441			
	Truck width over drive axle	B (in)	164			
	Spreader sideshift	V1 (in)	+/-32 (63)			
	Spreader rotation	(deg)	+195/-105			
	Ground clearance	min (in)	9		11	
Aisle width with 20'-40' container	A1 - A2 (in)	441 - 535				
Turning radius, outer with 20'-40' container (at 90 degree turn)	R1 - R3 (in)	319 - 370				

DRIVE LINE	Max travel speed, fw unloaded - rated load / rw unloaded - rated load <sup>4</sup>	(mph)	17-13 / 11-9		
	Lifting speed, unloaded - 70% of rated load	(fps)	1.38 - 0.82		
	Lowering speed, unloaded - rated load	(fps)	1.18 - 1.18		
	Drawbar pull / towing capacity <sup>2</sup>	(lbf)	71000 / 73500 / 83100		

OTHER	Tank volumes of working oil & brake oil	(gal)	195 (158 + 37)		
	Working hydraulic pressure boom / spreader, max	(psi)	3335 / 2320		
	Noise level LpAZ (EN12053), inside cabin <sup>3</sup>	(dB(A))	Tier 3 = 69-71 (67-70 <sup>5</sup> ) / Tier 4F = 68-71 (67-70 <sup>5</sup> )		
	Noise level LWAZ (EN12053), outside cabin <sup>3</sup>	(dB(A))	Tier 3 = 107-109 (105-107 <sup>5</sup> ) / Tier 4F = 106-108 (104-106 <sup>5</sup> )		

DRG450-65S5	DRG450-65S5X	DRG450-65S5XS	DRG450-65S6	DRG450-65S6X	DRG450-65S6H	DRG450-65S6HX	DRG450-65S6HXS
Container handling							
99 - 70 - 35	99 - 83 - 46	99 - 83 - 46	99 - 70 - 35 - 19	99 - 83 - 46 - 26	99 - 72 - 39 - 22	99 - 85 - 46 - 28	99 - 85 - 46 - 28
-	-	99 - 90 - 63	-	-	-	-	99 - 90 - 63 - 39
77 - 150 - 249	73 - 150 - 249		89 - 150 - 249	85 - 150 - 249	117 - 150 - 249 - 347	117 - 150 - 249 - 347	
5/5 - 5/4 - 4/3			6/5 - 5/5 - 4/4 - 2/2	6/5 - 5/5 - 4/4 - 2/2	6/6 - 6/5 - 5/4 - 4/3	6/6 - 6/5 - 5/4 - 4/3	6/6 - 6/5 - 5/4 - 4/3
33	37	37	33	37	33	37	37
256							

153222	170418	177032	155426	170859	162040	181882	184086
77162 - 219139	79366 - 221344	84878 - 226856	79366 - 225974	80469 - 227076	85980 - 243170	91492 - 248681	93696 - 250886
85980 - 207014	88846 - 233690	94358 - 239422	87083 - 208116	88626 - 233470	90390 - 215171	96562 - 245374	98767 - 247579
76059 - 33290	91051 - 48281	92153 - 49384	76059 - 28660	90390 - 42990	76059 - 18078	90390 - 32408	90390 - 32408
67241 - 16755	81791 - 20503	82673 - 21385	68343 - 17857	82232 - 21164	71650 - 19621	85319 - 22487	85319 - 22487

18x25",PR40/E4	18x33",PR36/E4	18x33",PR36/E4	18x25",PR40/E4	18x33",PR36/E4	18x25",PR40/E4	18x33",PR36/E4	18x33",PR36/E4
145 - 145							
119 - 102	119 - 110	119 - 110	119 - 102	119 - 110	119 - 102	119 - 110	119 - 110

0 - 60	0 - 60	0 - 60	0 - 62	0 - 62	0 - 63	0 - 63	0 - 63
181 - 717	185 - 720	185 - 720	177 - 758	181 - 762	181 - 819	185 - 823	185 - 823
155	159	159	155	159	155	159	159
594	598	594	637	641	696	700	700
276	276	276	303	303	335	335	335
102	106	106	102	106	106	106	106
461	461	461	473	473	500	500	500
164							
+/-32 (63)							
+195/-105							
9	11	11	9	11	9	11	11
457 - 535	457 - 535	457 - 535	469 - 547	469 - 547	480 - 559	480 - 559	480 - 559
335 - 370	335 - 370	335 - 370	335 - 372	335 - 372	335 - 372	335 - 372	335 - 372

17-13 / 11-9							
1.38 - 0.82							
1.18 - 1.18							
71000 / 73500 / 83100							

195 (158 + 37)							
3335 / 2320							
Tier 3 = 69-71 (67-70 <sup>5</sup> ) / Tier 4F = 68-71 (67-70 <sup>5</sup> )							
Tier 3 = 107-109 (105-107 <sup>5</sup> ) / Tier 4F = 106-108 (104-106 <sup>5</sup> )							

1. 4 + 2 pneumatic / diagonal tires  
 2. Depending on drive line  
 3. Depending on ECO Drive Mode setting  
 4. Only for Volvo engines with LU.  
 5. Noise values with optional Noise Kit (according to EN12053)

# Container handling.

			DRG450-70S5X	DRG450-70S5XS	DRG450-70S6HXS
MAIN DATA	Type of handling		Container handling		
	Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3 - Q4 (klbs)	99 - 90 - 50	99 - 90 - 50	99 - 90 - 50
	Lift capacity, row 1-2-3-4 (with support jacks)	Q1 - Q2 - Q3 - Q4 (klbs)	-	99 - 90 - 68	99 - 90 - 68 - 41
	Load center, from front face of tires, row 1-2-3-4	L4 - L5 - L6 - L7 (in)	73 - 150 - 249	73 - 150 - 249	113 - 150 - 249
	Stacking capacity, in container row 1-2-3-4 of 8'6" / 9'6"		5/5 - 5/4 - 4/3	5/5 - 5/4 - 4/3	6/6 - 6/5 - 5/4 - 4/3
	Lost load center, to front face of tires	X (in)		37	
Wheelbase	L3 (in)		276		

WEIGHTS	Service weight, standard truck	(lbs)	173725	177032	186071
	Axle load, front at load center L4, unloaded - loaded (no support jacks)	(lbs)	82673 - 221565	85980 - 224872	93917 - 246918
	Axle load, front at load center L5, unloaded - loaded (no support jacks)	(lbs)	91492 - 243170	94799 - 246477	98547 - 250225
	Axle load, rear at load center L4, unloaded - loaded	(lbs)	91051 - 51368	91051 - 51368	92153 - 38360
Axle load, rear at load center L5, unloaded - loaded	(lbs)	82232 - 20944	82232 - 20944	87524 - 26235	

WHEELS	Tires, dimension, PLY rating, star rating <sup>1</sup>		18x25",PR40/E4	18x33",PR36/E4	18x33",PR36/E4
	Tire pressure (front - rear)	(psi)		145 - 145	
	Track width (front - rear)	S1 - S2 (in)	147 - 374	147 - 374	156 - 469

DIMENSIONS	Boom angle, min - max	(deg)	0 - 60	0 - 60	0 - 63
	Boom height, min - max	H3 - H5 (in)	185 - 720	185 - 720	185 - 823
	Chassis height - top of boom fixation, max	H2 (in)		159	
	Lift height, max	H4 (in)	594	594	700
	Boom reach stroke	(in)	276	276	335
	Truck height - seat height	H3 - H8 (in)		106	
	Overall truck length with boom	L (in)	481	481	520
	Truck width over drive axle	B (in)		164	
	Spreader sideshift	V1 (in)		+/-32 (63)	
	Spreader rotation	(deg)		+195/-105	
	Ground clearance	min (in)		11	
	Aisle width with 20'-40' container	A1 - A2 (in)	476 - 535	476 - 535	500 - 559
Turning radius, outer with 20'-40' container (at 90 degree turn)	R1 - R3 (in)	354 - 370	354 - 370	354 - 372	

DRIVE LINE	Max travel speed, fw unloaded - rated load / rw unloaded - rated load <sup>4</sup>	(mph)		17-13 / 11-9	
	Lifting speed, unloaded - 70% of rated load	(fps)		1.38 - 0.82	
	Lowering speed, unloaded - rated load	(fps)		1.18 - 1.18	
	Drawbar pull / towing capacity <sup>2</sup>	(lbf)		71000 / 73500 / 83100	

OTHER	Tank volumes of working oil & brake oil	(gal)		195 (158 + 37)	
	Working hydraulic pressure boom / spreader, max	(psi)		3335 / 2320	
	Noise level LpAZ (EN12053), inside cabin <sup>3</sup>	(dB(A))		Tier 3 = 69-71 (67-70°) / Tier 4F = 68-71 (67-70°)	
	Noise level LWAZ (EN12053), outside cabin <sup>3</sup>	(dB(A))		Tier 3 = 107-109 (105-107°) / Tier 4F = 106-108 (104-106°)	

DRG450-75S5XS	DRG450-75S6HXS	DRG450-82S5X	DRG450-82S5XS	DRG450-92S5X	DRG450-92S5XS
Container handling					
99 - 99 - 57	99 - 99 - 59 - 37	99 - 99 - 81 - 52	99 - 99 - 81 - 52	99 - 99 - 90 - 61	99 - 99 - 90 - 61
99 - 99 - 74	99 - 99 - 77 - 50	-	99 - 99 - 99 - 70	-	99 - 99 - 99 - 77
73 - 150 - 249	113 - 150 - 249			109 - 154 - 253	
5/5 - 5/4 - 4/3	6/6 - 6/5 - 5/4 - 4/3			5/5 - 5/5 - 5/5 - 4/4	
	37			41	
295		325	325	364	364

181661	190480	229722	231927	234131	236336
88185 - 224431	96783 - 246256	115963 - 260807	118168 - 263011	118168 - 263011	120372 - 265216
96562 - 258602	101413 - 263452	121034 - 279767	123238 - 281971	123238 - 281971	125443 - 284176
93476 - 56438	95460 - 45195	113759 - 68123	113759 - 68123	113759 - 72973	113759 - 72973
85098 - 22267	91051 - 28219	109129 - 49163	109129 - 49163	109129 - 55997	109129 - 55997

	18x33",PR36/E4			21x35",PR40/E3	
			145 - 145		
152 - 398	163 - 504	195 - 878	195 - 878	195 - 1000	195 - 1000

0 - 58	0 - 61			0 - 47	
187 - 724	187 - 827			207 - 764	
	159			170	
598	700			622	
276	335			335	
	106			117	
500	540	579	579	619	619
164	164	164	182	182	182
			+/-32 (63)		
			+195/-105		
11	11	15	11	15	15
492 - 535	516 - 559	594	594	636	636
354 - 370	354 - 372	449	449	490	490

	17-13 / 11-9			17-13 / 10-9	
	1.38 - 0.82			1.38 - 0.66	
	1.18 - 1.18			1.15 - 1.15	
	71000 / 73500 / 83100			83100	

	195 (158 + 37)			222 (185 + 37)	
			3335 / 2320		
			Tier 3 = 69-71 (67-70°) / Tier 4F = 68-71 (67-70°)		
			Tier 3 = 107-109 (105-107°) / Tier 4F = 106-108 (104-106°)		

1. 4 + 2 pneumatic / diagonal tires  
 2. Depending on drive line  
 3. Depending on ECO Drive Mode setting  
 4. Only for Volvo engines with LU.  
 5. Noise values with optional Noise Kit (according to EN12053)

# Intermodal handling.

			DRG450-60C5	DRG450-60C5X	DRG450-65C5	DRG450-65C5X	DRG450-65C5XS	DRG450-70C5X	DRG450-70C5XS	DRG450-75C5XS	DRG450-82C5X	DRG450-82C5XS	DRG450-92C5XS
MAIN DATA	Type of handling		Intermodal handling										
	Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3 - Q4 (klbs)	99 - 55 - 22	99 - 70 - 33	99 - 61 - 28	99 - 74 - 37	99 - 74 - 37	99 - 83 - 44	99 - 83 - 44	99 - 94 - 52	99 - 99 - 74 - 46	99 - 99 - 74 - 46	99 - 99 - 83 - 55
	Lift capacity, row 1-2-3-4 (with support jacks)	Q1 - Q2 - Q3 - Q4 (klbs)	-										
	Load center, from front face of tires, row 1-2-3-4	L4 - L5 - L6 - L7 (in)	77 - 150 - 249	73 - 150 - 249	77 - 150 - 249	73 - 150 - 249			109 - 154 - 253				
	Stacking capacity, in container row 1-2-3-4 of 8'6" / 9'6"		5/5 - 5/4 - 4/3										
	Lost load center, to front face of tires	X (in)	33	37	33	37			41				
Wheelbase	L3 (in)	236	236	256	256	256	276	276	295	325	325	364	
WEIGHTS	Service weight, standard truck	(lbs)	162040	180339	163363	179236	184086	183646	186952	194889	242509	244714	244714
	Axle load, front at load center L4, unloaded - loaded	(no support jacks) (lbs)	90390 - 235895	92594 - 238099	91712 - 233690	93476 - 235454	98106 - 240083	95901 - 234792	99208 - 238099	101413 - 237658	130073 - 274916	132277 - 277121	134482 - 279326
	Axle load, front at load center L5, unloaded - loaded	(no support jacks) (lbs)	102956 - 200841	105822 - 232367	103397 - 209219	105822 - 235454	110672 - 240304	107586 - 248241	110893 - 251547	112436 - 267200	136687 - 295419	138891 - 297624	141096 - 299829
	Axle load, rear at load center L4, unloaded - loaded	(lbs)	71650 - 25353	87744 - 41447	71650 - 28881	85760 - 42990	85980 - 43211	87744 - 48061	87744 - 48061	93476 - 56438	112436 - 66800	112436 - 66800	112436 - 71650
	Axle load, rear at load center L5, unloaded - loaded	(lbs)	59084 - 16314	74516 - 18519	59966 - 15873	73414 - 18739	73414 - 18739	76059 - 19180	76059 - 19180	82453 - 22487	105822 - 46297	105822 - 46297	105822 - 53572
WHEELS	Tires, dimension, PLY rating, star rating <sup>1</sup>		18x25",PR40/E4	18x33",PR40/E4	18x25",PR40/E4	18x33",PR40/E4					21x35",PR40/E3		
	Tire pressure (front - rear)	(psi)	145 - 145										
	Track width (front - rear)	S1 - S2 (in)	119 - 102	119 - 110	119 - 102	119 - 110					128 - 130		
DIMENSIONS	Boom angle, min - max	(deg)	0 - 60										
	Boom height, min - max	H3 - H5 (in)	181 - 717	185 - 720	181 - 717	185 - 720	185 - 720	185 - 720	185 - 720	187 - 724	207 - 764		
	Chassis height - top of boom fixation, max	H2 (in)	155	159	155	159					170		
	Lift height, max	H4 (in)	586	590	586	590	586	586	590	614			
	Boom reach stroke	(in)	276										
	Truck height - seat height	H3 - H8 (in)	102	106	102	106					117		
	Overall truck length with boom	L (in)	441	441	461	461	461	481	481	500	579	579	619
	Truck width over drive axle	B (in)	164										
	Spreader sideshift	V1 (in)	+/-32 (63)										
	Spreader rotation	(deg)	+195/-105										
	Ground clearance	min (in)	9	11	9	11					15	11	11
Aisle width with 20'-40' container	A1 - A2 (in)	441 - 535	441 - 535	457 - 535	457 - 535	457 - 535	476 - 535	476 - 535	492 - 535	594	594	636	
Turning radius, outer with 20'-40' container (at 90 degree turn)	R1 - R3 (in)	319 - 370	319 - 370	335 - 370	335 - 370	335 - 370	354 - 370	354 - 370	370 - 370	449	449	490	
DRIVE LINE	Max travel speed, fw unloaded - rated load / rw unloaded - rated load <sup>4</sup>	(mph)	17-13 / 11-9										
	Lifting speed, unloaded - 70% of rated load	(fps)	1.38 - 0.82										
	Lowering speed, unloaded - rated load	(fps)	1.18 - 1.18										
	Drawbar pull / towing capacity , max <sup>2</sup>	(lbf)	71000 / 73500 / 83100					71000 / 73500 / 83100					83100
OTHER	Tank volumes of working oil & brake oil	(gal)	195 (158 + 37)										
	Working hydraulic pressure boom / spreader, max	(psi)	3335 / 2320										
	Noise level LpAZ (EN12053), inside cabin <sup>3</sup>	(dB(A))	Tier 3 = 69-71 (67-70 <sup>5</sup> ) / Tier 4F = 68-71 (67-70 <sup>5</sup> )										
	Noise level LWAZ (EN12053), outside cabin <sup>3</sup>	(dB(A))	Tier 3 = 107-109 (105-107 <sup>5</sup> ) / Tier 4F = 106-108 (104-106 <sup>5</sup> )					Tier 3 = 107-109 (105-107 <sup>5</sup> ) / Tier 4F = 106-108 (104-106 <sup>5</sup> )					

1. 4 + 2 pneumatic / diagonal tires  
 2. Depending on drive line  
 3. Depending on ECO Drive Mode setting  
 4. Only for Volvo engines with LU.  
 5. Noise values with optional Noise Kit (according to EN12053)

# Industrial handling.

			DRG500-60A5	DRG540-60A5X	DRG540-65A5X	DRG540-65A5XS	DRG600-75A5X	DRG600-75A5XS	DRG650-92A5X	DRG650-92A5XS	DRG570-65Z	DRG600-65ZX	DRG600-65ZXS	DRG700-75ZX	DRG700-75ZXS	DRG1000-82ZX	DRG1300-92ZX	
MAIN DATA	Type of handling		Tool carrier					Tool carrier			Lift hook							
	Lift capacity, load center L4-L7	Q1-Q2-Q3-Q4-Q5 (tons)	110-59-35-24	119-72-44-31	119-83-55-37	119-83-55-37	132-99-64-46	132-99-63-46	143-143-103-75-57	143-143-103-75-57	125-119-68-42-31	132-121-83-55-40	132-121-83-55-40	154-132-99-66-48	154-132-99-66-48	220-220-154-105-79	286-275-253-200-128	
	Lift capacity, load center L4-L7 (incl jacks)	Q1-Q-Q3-Q4-Q5 (tons)	-	-	-	119-99-74-50	-	132-110-83-59	-	143-143-132-99-75	-	-	132-132-99-75-53	-	154-132-110-86-61	-	-	
	Load center, from front face of tires	L4-L5-L6-L7-L8 (m)	79-157-236-315-0					79-157-236-315-0	79-157-236-315-394			59-79-157-236-315					39-79-157-236-315	
	Lost load center, to front face of tires	X (mm)	33	37	37	37	37	37	44	44	33	37	37	37	37	44	44	
Wheelbase	L3 (mm)	236	236	256	256	295	295	364	364	256	256	256	295	295	325	364		
WEIGHTS	Service weight, standard truck	(kgs)	138892	160056	163143	167993	169756	171961	219360	221565	134703	156308	158954	163143	165347	242509	244052	
	Axle load, front at load center L4, unloaded - loaded (no support jacks)	(kgs)	65036 - 226635	65257 - 239863	68343 - 241627	73193 - 246477	75398 - 261689	77603 - 261689	102294 - 292553	104499 - 294758	57320 - 228178	60186 - 252650	62391 - 254854	67461 - 271830	69666 - 274035	101854 - 405210	97444 - 448641	
	Axle load, front at load center L5, unloaded - loaded (no support jacks)	(kgs)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Axle load, rear at load center L4, unloaded - loaded	(kgs)	73855 - 22487	94799 - 35935	94799 - 40565	94799 - 40565	94358 - 42549	94358 - 42549	117065 - 70107	117065 - 70107	77382 - 32187	96122 - 35935	96122 - 35935	95681 - 45636	95681 - 45636	140655 - 57761	146607 - 82012	
Axle load, rear at load center L5, unloaded - loaded	(kgs)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
WHEELS	Tires, dimension, PLY rating, star rating <sup>1</sup>		18x25",PR40/E4	18x33",PR36/E4	18x33",PR36/E4	18x33",PR36/E4	18x33",PR36/E4	18x33",PR36/E4	21x35",PR40/E3	21x35",PR40/E3	18x25",PR40/E4	18x33",PR36/E4	18x33",PR36/E4	18x33",PR36/E4	18x33",PR36/E4	24x35",PR48/E4	24x35",PR48/E4	
	Tire pressure (front - rear)	(MPa)	145 - 145					145 - 145			145 - 145							
	Track width (front - rear)	S1 - S2 (mm)	119 - 102	119 - 110	119 - 110	119 - 110	119 - 110	119 - 110	128 - 130	128 - 130	119 - 102	119 - 110	119 - 110	119 - 110	119 - 110	133 - 130		
DIMENSIONS	Boom angle, min - max	(deg)	0 - 60	0 - 60	0 - 60	0 - 60	0 - 58	0 - 58	0 - 47	0 - 47	0 - 60	0 - 60	0 - 60	0 - 58	0 - 58	1 - 42		
	Boom height, min - max	H3 - H5 (mm)	181 - 717	185 - 720	185 - 720	185 - 720	187 - 724	187 - 724	207 - 764	207 - 764	181 - 717	185 - 720	185 - 720	187 - 724	187 - 724	222 - 650		
	Chassis height - top of boom fixation, max	H2 (mm)	155	159	159	159	159	159	170	170	155	159	159	159	159	174		
	Lift height, max	H4 (mm)	596	600	600	600	600	600	627	627	602	606	606	606	606	511		
	Boom reach stroke	(mm)	276					276	335	335	276							
	Truck height - seat height	H3 - H8 (mm)	102	106	106	106	106	106	117	117	102	106	106	106	106	123		
	Overall truck length with boom	L (mm)	426	426	445	445	485	485	603	603	430	430	430	469	469	493	532	
	Truck width over drive axle	B (mm)	164					164	182	182	164							
	Spreader sideshift	V1 (mm)	+/-17					+/-17			-							
	Spreader rotation	(deg)	+195/-105					+195/-105			360 endless							
Ground clearance	(mm)	11					11			11								
Turning radius, outer	R1 (mm)	318	318	334	334	370	370	490	490	334	334	334	370	370	448	490		
DRIVE LINE	Max travel speed, fw unloaded - rated load / rw unloaded - rated load <sup>4</sup>	(km/h)	17-13 / 11-9					17-13 / 11-9			17-3 / 11-3							
	Lifting speed, unloaded - 70% of rated load	(m/s)	1.38 - 0.79					1.38 - 0.79	1.38 - 0.66	1.38 - 0.66	1.38 - 0.72							
	Lowering speed, unloaded - rated load	(m/s)	1.18 - 1.18					1.18 - 1.18	1.15 - 1.15	1.15 - 1.15	0.66 - 1.18							
	Drawbar pull / towing capacity, max <sup>2</sup>	(kN)	71000 / 73500 / 83100					71000 / 73500 / 83100	83100			71000 / 73500 / 83100						
OTHER	Tank volumes of working oil & brake oil	(l)	195 (158 + 37)					195 (158 + 37)	222 (185 + 37)	222 (185 + 37)	195 (158 + 37)							
	Working pressure boom / spreader, max	(MPa)	3335					3335			3335							
	Noise level LpAZ (EN12053), inside cabin <sup>3</sup>	(dB(A))	Tier 3 = 69-71 (67-70°) / Tier 4F = 68-71 (67-70°)					Tier 3 = 69-71 (67-70°) / Tier 4F = 68-71 (67-70°)			Tier 3 = 69-71 (67-70°) / Tier 4F = 68-71 (67-70°)							
	Noise level LWA (2000/14/EC), outside cabin <sup>3</sup>	(dB(A))	Tier 3 = 109-111 (107-109°) / Tier 4F = 108-110 (106-108°)					Tier 3 = 109-111 (107-109°) / Tier 4F = 108-110 (106-108°)			Tier 3 = 69-71 (67-70°) / Tier 4F = 68-71 (67-70°)							

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