



Guaranteed to cut costs.

With our new
eco-efficient solution.



KALMAR

Reduce fuel costs, lower emissions.

Increasing fuel costs and tougher emissions standards means you need a solution that is lean and green, while still maintaining the highest levels of operational productivity.

The Kalmar Eco Reachstacker provides you with an eco-efficient solution that will have a positive financial impact on your business. It uses up to 40% less fuel than older machines and 25% less than more recent machines, reducing your fuel costs and lowering your emissions significantly while matching the productivity levels of machines with much bigger engines.

Eco-efficiency at work.

Reducing the fuel consumption of your equipment also reduces your emissions, which will enhance your environmental reputation and help you meet current and future emissions standards. Together we can shape the future of cargo handling, with safe and eco-efficient solutions that improve your every move.

The Kalmar Eco reachstacker can offer your business:



Up to a 40% reduction in fuel costs and consumption.



A significant reduction in operating noise for your operators and others nearby.



Up to a 40% reduction in CO₂, NO_x, SO_x and particulate emissions.



An ergonomically designed cabin for operational ease.



A much smoother drive, which will reduce stress and pressure on your driver's body.



Proven in the field.

Over 150 customers are already benefiting from substantially reduced fuel consumption and CO₂ emissions around the globe, proving that this technology not only delivers on the promised savings but also on performance.

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

Normal Mode: for normal productivity and yard operations, you can expect 5-10% lower fuel consumption without compromising on productivity.

**Save
5-10%**
on fuel consumption

Economy Mode: for off-peak or night time operations when productivity is not essential or lower noise levels are required, you can expect 10-20% lower fuel consumption.

**Save
10-20%**
on fuel consumption

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 optimise its operational efficiency. This will substantially help to reduce your cost per move.

Guaranteed to cut costs.

Your Eco Reachstacker is guaranteed to use less fuel, cutting your fuel costs substantially. This reduction in fuel costs will also cut your costs per move, helping you to be more competitive in a tough market.

Quiet and eco-efficient.

Cabooter Group, currently operate one barge and two rail terminals in the Netherlands and have been a long term partner of Kalmar. They turned to Kalmar first, when they were looking for a solution that was both eco-efficient and would significantly reduce operational noise levels, as their terminals are in built up urban areas.

"We chose the Kalmar Eco Reachstacker as we felt it represented the next big step in product innovation. It provides us with a low emission solution that is also significantly quieter. From the start our fuel consumption dropped from 15.7 to 12.9 l/hr, reducing our costs significantly. Our drivers are extremely excited as it is like driving a new Ferrari, not an old Volkswagen. This is a new generation of reachstackers, that are really good."

Peter Pardoel, Business Development and Operational Excellence.
Cabooter Group.

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

Typical operating data for 2000 hours of operation.

Litres of fuel	33,270
Euro	41,587
Tonnes of CO ₂	110



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

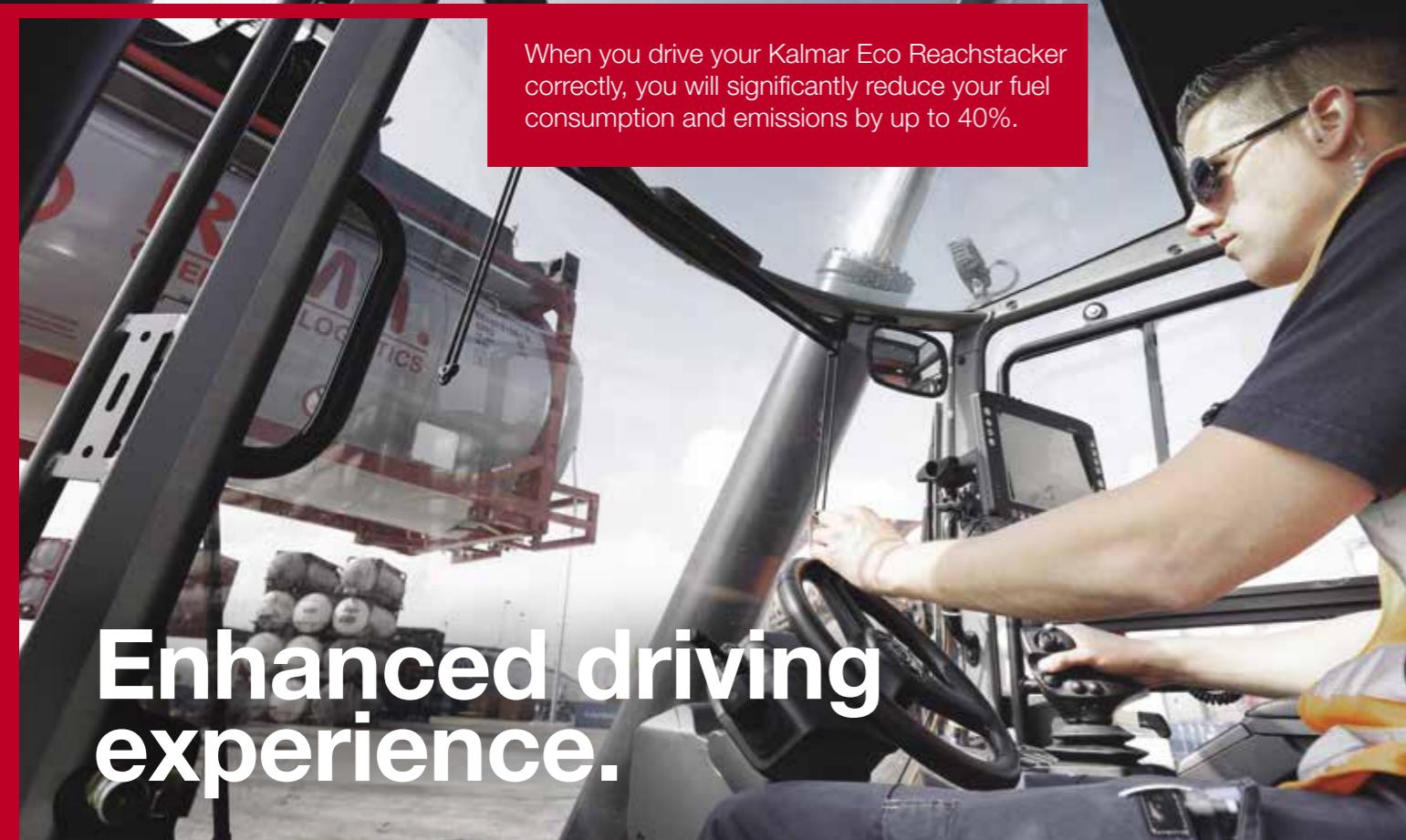
Litres of fuel	41,068
Euro	52,334
Tonnes of CO ₂	136

10 year old machine

Litres of fuel	47,145
Euro	58,932
Tonnes of CO ₂	156

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 1.25€ a litre and 2640 grams of CO₂ being produced per litre of fuel used.





When you drive your Kalmar Eco Reachstacker correctly, you will significantly reduce your fuel consumption and emissions by up to 40%.

Enhanced driving experience.



Kalmar Training Academy.

Driving a Kalmar Eco Reachstacker is different than traditional reachstackers and, to get the most out of it, our training academy offers a range of courses for both your technicians and operators. Operators will be shown how to optimise their driving performance and what needs to be checked on the machine every day.

Technicians will be given the knowledge they need to be able to keep 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.

Increased safety and efficiency.

The Kalmar Eco Reachstacker uses a continuous variable transmission which provides smoother transition in shifts, drive stops and direction changes. This allows the operator to drive more precisely, resulting in increased safety levels.

Easier to operate.

Kalmar Eco Reachstackers are much easier to drive than other machines, as their smart programming does a lot of the work for you. Your drivers will no longer need to rev their engines to get the lifting and handling speeds they want, nor will they need to hold the brake pedal continually while lifting and lowering while stationary. This will dramatically reduce the strain and stress on their bodies.

Increased comfort.

Kalmar Eco Reachstackers come fitted with our ergonomically designed EGO cabin. With slim line b-pillars, adjustable seating, steering wheel and control panel, your drivers will benefit from a superior operating environment and visibility. The Kalmar Eco Reachstacker, with its unique driveline, is quieter inside and outside the cabin, and vibrates less than traditional reachstackers, further enhancing driver comfort.

Kalmar Care.

Making sure your business never stops.

We 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. The different contract types include a set of standardised service modules that can be tailored to meet your business needs. Opposite is an overview of the four contracts.

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. Kalmar Parts Care makes 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 operational needs, talk to us today and see how we can lift your parts availability, while reducing your inventory costs.

The four flexible types of service contracts.

Kalmar Support Care

We support your maintenance processes on demand.

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

Kalmar Essential Care

We perform your agreed maintenance tasks proactively.

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

Kalmar Complete Care

We meet your complete maintenance requirements.

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

Kalmar Optimal Care

We optimise your business performance.

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



Improve your fleet performance and your business.

Optimise 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.



Access on mobile, tablet or traditional screen.



View each machine's movements as they occur.



Plan your maintenance and spare parts needs.



View each operator's performance in real time.

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

More support.

Kalmar Load Measurement Solution

The Kalmar load measurement solution automatically weighs the load your equipment is handling. This information is registered so you can monitor and review each load, overloading or load distribution. The solution will save you time as the container is weighed while it is being moved and you can reduce paper work as this solution can automatically update other connected systems.

The Kalmar Load Measurement Solution records the Verified Gross Mass (VGM) of any load your equipment is handling, giving you the ability to monitor and review individual or batched loads and identify any overloading. This information is then available in several different ways, depending on your chosen solution: via your TOS, Kalmar Insight or as a stand-alone solution with printer.

The accurate and reliable weighing of containers is an important part of safety at sea and is a mandatory requirement of the new SOLAS global weighing standards, from July 2016. The Kalmar load measurement solution is compliant with the SOLAS global standards.



How you will benefit from the Kalmar Eco Reachstacker:

- Big reduction in fuel consumption
- Big reduction in exhaust emissions
- Big reduction of noise levels, inside and outside the cabin
- Increased operation precision and control
- Increased driver comfort with less stresses and strains
- Increased driver efficiency and productivity
- Increased ease of operation.

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.



Eco Reachstacker options.

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

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.



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



Kalmar 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 tyres.



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 utilises multiple spray nozzles that release a high-pressure water mist where the fire has been detected from a re-chargeable water tank. This can be activated manually or automatically through an in-cabin temperature sensor.



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 safety options.



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

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

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 complete truck

Steer Axle (Rear)

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

Drive Axle (Front)

- Kessler planetary axle with differential drive
- Wide axle for high side stability (4150 mm)
- Oil-cooled Wet Disc Brakes (WDB)
- High pressure filter (10 µm) for the brakes
- Brake oil tank (140 lit), cooling & breather filter

Wheels (Tyres & Rims)

- Drive and steer tyres 18.00x25"/PR40 (6x)
- Drive and steer tyres 18.00x33"/PR36 (6x), for stronger models with higher lift capacity

Drive Train

- Volvo D8 in EU stage 3A (EPA Tier 3)
- Volvo D8 in EU stage 4 (EPA Tier 4 Final)
- Volvo D8 in EU stage 5*
- 6-cylinder diesel engines with pre-heater, displacement 7,70 Lit
- High power & torque with low fuel consumption
- Engine monitoring and protection system
- Automatic CVT transmission, DRTS R2-RS
- Hydrostatic slow-speed / mechanical high-speed
- Seamless speed shifting and soft directional shifting (FWD - REV)
- 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 µm)
- Hydraulic long-life fine filter with by-pass (5 µm)
- Servo filter for the work hydraulics (10 µm)
- Pressure filter for the brakes (10 µm)
- Regeneration high-speed lifting & extension
- Boom end-damping (in-out/up-down/20-40')
- Hydraulic tank (600 lit), cooling, breather filter & ORFS-couplings

Lifting Boom

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

* Available 2019/20

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)

Attachment

- S = Top Lift, 45 tons, 20'-40', MPS, TWL + 4 lift hooks
- C = Combi Lift, 45 tons, 20'-30'-40', HPS, TWL, lift legs, 4 lift hooks, length tilt & tilt lock
- A = Tool Carrier, max 65 tons, MPS, TWL (2,5x0,76 m) & 4 lift eyes
- Z = Lift Hook, max 70 tons, dual hook, free rotation & 4 lift eyes
- S-C-A = 4 floating twistlocks, LED indication lamps & 4 LED work lamps
- S-C-A = Safety locking, alignment pins (4x) & sensors (4x)
- S-C-A = Rotation +195/-105 deg (2 motors & 2 brakes)
- S-C-A = Lift hooks for slings on end beams (4x)
- S-A = Mechanical Pile Slope MPS ±5 deg
- C = Hydraulic HPS ±5 deg
- Large sideshift (S-C = ±800 mm / A = ±450 mm)

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 best ergonomics
- Large windows, good visibility, in all directions
- Manual moveable cabin (stroke 2375 mm)
- Step for roof access
- Instep handle (left side)
- 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 (right side)
- Interior lights with fade away function
- Fully adjustable steering wheel incl tilt function
- Fully adjustable colour display
- Electric adjustable operational console with joystick, operational buttons & armrest (RHS)
- Power steering wheel with steer knob
- Electric 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, very powerful cooler, heater and ventilator, incl programmable settings.
- Air-condition incl. fresh air and recirculation filter
- Wipers/washers on front, rear and roof windows
- Interval wiper functions on front, rear and roof

Information Systems

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

ECO Drive Modes (EDM)

- Power mode
- Normal mode (default)
- Eco mode

Coasting Deceleration Mode (CDM)

- Soft braking
- Medium braking (default)
- Hard braking*

Operator menu:

- System voltage
- Engine rpm
- Travelling speed (km/h or m/h)
- Hydraulic oil temperature
- Transmission oil temperature
- Engine oil pressure & coolant level
- Engine oil level
- Clock and date
- Load & Load distance (LC)
- 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 AdBlue)
- 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

Colour

- 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, tyre pressure & oil pressure stickers
- Information & joystick stickers
- Fuse diagram
- Instruction manual
- Maintenance manual
- Spare parts catalogue

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 range in Toplift (S), Intermodal (C) and Industrial (A + Z)
- Wheelbases in 6,0 / 6,5 m
- Duplex 2-stage booms for S+C+A+Z (H4 = 13,0-17,8 m)

Body

- Anti slip protection on fenders and tanks
- Mud flaps (front or/and rear)
- External rear view mirrors (2x)
- Noise insulation kit for the complete truck

Steer Axle (Rear)

- Steer cylinder space 14 mm (plus 0,50 m radius).

Wheels (Tyres & Rims)

- Spare wheel and rim 18.00x25"/PR40 (6x)
- Spare wheel and rim 18.00x33"/PR36 (6x), for stronger models with higher lift capacity

Drive train

- Volvo TAD-853-VE, 6-inline, 235 kW, 1310 Nm (EU 3A / EPA Tier 3)
- Volvo TAD-873-VE, 6-inline, 235 kW, 1310 Nm (EU 4 / EPA Tier 4F)
- Volvo TAD-883-VE, 6-inline, 235 kW, 1310 Nm (EU 5)*
- Start/stop function to save fuel
- Automatic engine and ignition stop at idle
- Pre-cleaner air intake incl raised air intake
- Various programmable speed limitations

Load-Sensing Hydraulics

- High pressure filter

Lifting boom

- Duplex 2-stage S5 (5/5, H4 = 15,1-15,2 m)
- Duplex 2-stage S6 (6/6, H4 = 16,1-16,2 m)
- Duplex 2-stage S6H (6/6, H4 = 17,7-17,8 m)
- Duplex 2-stage C5 (5/5, H4 = 14,9-15,0 m)
- Duplex 2-stage A5 (5/5, H4 = 15,0-15,1 m)
- Duplex 2-stage Z (-/, H4 = 13,0 m)

Attachment

- Tilt function ±5 deg (FWD/REV), incl tilt lock & speed limit 5 km/h
- Hydraulics Pile Slope HPS ±5 deg (side tilt), incl tilt lock & speed limit 5 km/h
- Rotations stop spreader at ±25 deg (incl override switch)
- Automatic extension 20'-40' incl 30' stop
- Overhigh folding legs OFL = 1600 or 2000 mm (integral)
- Boom nose extension L = 1000 or 1600 mm
- Long boom nose, extension = 1600 mm
- 2 extra lift eyes in centre of spreader (2 x 22,5 ton)
- 4 extra lift eyes in middle part of spreader (4 x 11,25 ton)
- Soft landing with ultrasonic sensor
- Twistlock beam rubber damper, 100 mm extension (noise reduction)
- Extended twistlocks 300 mm
- Side Tilt Spreader 0-55 deg, 45 / 32 tons
- Length Tilt Spreader 0-55 deg, 45 / 32 tons
- Hydraulic door opener - for tilt spreader - on one side
- Coil ram sub frame, STD, 35 tons, ID / OD = 500 / 3000 mm
- Coil ram sub frame, Tool Carrier, 35 tons, ID / OD = 500 / 3000 mm

Fleet Management

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

Fuel Saving Guarantee (see pp 4-5)

- Kalmar Insight 3 year license
- Guaranteed level of fuel consumption
- Eco Reachstacker driver training
- Kalmar Speed Limitation System
- Automatic engine stop when idling

Kalmar Load Measurement System

- Automatically measures and records equipment load
- SOLAS compliant

Colour

- Other colour than standard, chassis
- 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

- Eco Reachstacker driver training
- Contact Kalmar Training Centre for training programs

Climate

Structure

Drive train

Wheels

Body

Steer Axle

Attachment

Controls

Climate

Additional Equipment

Load-Sensing Hydraulics

Lifting boom

Controls

Climate

Additional Equipment

Load-Sensing Hydraulics

Lifting boom

Drivelines.

Eco Reachstacker						
Engine emission approvals	EU3 / Tier 3	EU4 / Tier 4F	EU5*			
Engine emission brand / series	Volvo D8	Volvo D8	Volvo D8			
Engine model	TAD-853-VE	TAD-873-VE	TAD-883-VE			
Engine after treatment type	No SCR / AdBlue	With SCR / AdBlue	With SCR / AdBlue			
	No particle filter	No particle filter	With particle filter			
Engine fuel / type	Diesel / 4-stroke	Diesel / 4-stroke	Diesel / 4-stroke			
Engine design / cylinders	6-inline / common rail	6-inline / common rail	6-inline / common rail			
Engine displacement (dm ³)	7.70	7.70	7.70			
Max power (kW)	235	235	235			
Max torque (Nm)	1310	1310	1310			
Fuel consumption – average diesel (l/h)	10–15	10–15	10–15			
Fuel consumption – average AdBlue (%)	-	1 - 5	3 - 7			
Transmission model	Dana Rexroth R2-RS					
Transmission gear shift type	Hydrostatic + Mechanical (power split)					
Transmission clutch type	CVT (Continuous Variable Transmission)					
Transmission speed range (FWD - REV)	3 - 2					
Drive axle brand / series	Kessler D-102 (WDB)					
Service brake / cooling	Wet Disc Brakes with oil cooling					
Alternator, power (W)	AC, 3640 (28 x 130)	AC, 3640 (28 x 130)	AC, 3640 (28 x 130)			

* Available 2019/20

Attachments.

There are a range of attachments that can be fitted onto your reachstacker, which one depends of your handling needs.



Container Handling - Top Lift (S)

Intermodal Handling - Top Lift and Trailer Lift (C)

Industrial Handling - Tool Carrier (A)

Industrial Handling - Lift Hook (Z)



Container Handling.

	DRG420-60S5E	DRG450-60S5E	DRG450-60S5ME	DRG450-60S5XE	DRG450-65S5E	DRG450-65S5XE	DRG450-65S5XSE	DRG450-65S6E	DRG450-65S6XE	DRG450-65S6HE	DRG450-65S6HXE	DRG450-65S6HXSE		
MAIN DATA	Type of handling	Container handling						Container handling						
	Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3 - Q4 (tons)	42 - 25 - 12	45 - 27 - 13	45 - 30 - 15	45 - 35 - 18	45 - 32 - 16	45 - 38 - 21	45 - 38 - 21	45 - 32 - 16 - 9	45 - 38 - 21 - 12	45 - 33 - 18 - 10	45 - 39 - 21 - 13	45 - 39 - 21 - 13
	Lift capacity, row 1-2-3-4 (including jacks)	Q1 - Q2 - Q3 - Q4 (tons)	-	-	-	-	-	-	45 - 41 - 29	-	-	-	45 - 41 - 29 - 18	
	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	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	
	Load centre, from front face of tyres, row 1-2-3-4	L4 - L5 - L6 - L7 (mm)	1965 - 3815 - 6315	1965 - 3815 - 6315	1965 - 3815 - 6315	1865 - 3815 - 6315	1965 - 3815 - 6315	1865 - 3815 - 6315	2265-3815-6315-8815	2165-3815-6315-8815	2965-3815-6315-8815	2865-3815-6315-8815	2865-3815-6315-8815	
	Load centre, to front face of tyres	X (mm)	835	835	835	935	835	935	935	935	835	935	935	
	Wheelbase	L3 (mm)		6000					6500					
	Service weight, standard truck	(kgs)	65500	67400	69400	77500	69500	77300	80300	70500	77500	73500	82500	83500
	Axle load, front at load centre L4, unloaded - loaded	(kgs)	34500 - 96100	34600 - 100600	34600 - 100600	35600 - 101600	35000 - 99400	36000 - 100400	38500 - 102900	36000 - 102500	36500 - 103000	39000 - 110300	41500 - 112800	42500 - 113800
	Axle load, front at load centre L5, unloaded - loaded	(kgs)	38900 - 83300	39000 - 86900	39000 - 92200	40200 - 102900	39000 - 939000	40300 - 106000	42800 - 108600	39500 - 94400	40200 - 105900	41000 - 97600	43800 - 111300	44800 - 112300
WHEELS	Axle load, rear at load centre L4, unloaded - loaded	(kgs)	31000 - 11400	32800 - 11800	34800 - 13800	41900 - 20900	34500 - 15100	41300 - 21900	41800 - 22400	34500 - 13000	41000 - 19500	34500 - 8200	41000 - 14700	41000 - 14700
	Axle load, rear at load centre L5, unloaded - loaded	(kgs)	26600 - 7200	28400 - 7500	30400 - 7200	37300 - 9600	30500 - 7600	37100 - 9300	37500 - 9700	31000 - 8100	37300 - 9600	32500 - 8900	38700 - 10200	38700 - 10200
	Tyres, dimension, PLY rating, star rating ¹		18 x 25", PR40, E4	18 x 25", PR40, E4	18 x 25", PR40, E4	18 x 33", PR36, E4	18 x 25", PR40, E4	18 x 33", PR36, E4	18 x 33", PR36, E4	18 x 25", PR40, E4	18 x 25", PR36, E4	18 x 33", PR36, E4	18 x 33", PR36, E4	
	Tyre pressure (front - rear)	(MPa)		1,0 / 1,0						1,0 / 1,0				
DIMENSIONS	Track width (front - rear)	S1 - S2 (mm)	3030 - 2600	3030 - 2600	3030 - 2600	3030 - 2800	3030 - 2600	3030 - 2800	3030 - 2800	3030 - 2600	3030 - 2800	3030 - 2800	3030 - 2800	
	Boom angle, min - max	(deg)	0 - 60				0 - 60	0 - 60	0 - 60	0 - 62	0 - 63	0 - 62	0 - 62	0 - 63
	Boom height, min - max	H3 - H5 (mm)	4600 - 18200	4600 - 18200	4600 - 18200	4700 - 18300	4600 - 18200	4700 - 18300	4700 - 18300	4500 - 19250	4600 - 19350	4600 - 20800	4700 - 20900	4700 - 20900
	Chassis height - top of boom fixation, max	H2 (mm)	3925	3925	3925	4025	3925	4025	4025	3925	4025	3925	4025	4025
	Lift height, min-max in twistlocks, row 1	H4 (mm)	15100	15100	15100	15200	15100	15200	15100	16200	16300	17700	17800	17800
	Boom reach stroke	(mm)	7000				7000	7000	7000	7700	7700	8500	8500	8500
	Truck height - seat height	H6 - H8 (mm)	4600 - 2575	4600 - 2575	4600 - 2575	4700 - 2675	4600 - 2575	4700 - 2675	4700 - 2575	4500 - 2575	4600 - 2675	4600 - 2575	4700 - 2675	4700 - 2675
	Overall truck length, without - with boom	L (mm)	11200				11700	11700	11700	12000	12000	12700	12700	12700
	Truck width over drive axle	B (mm)	4150				4150							
	Spreader sideshift	V1 (mm)	+/-800 (1600)				+/-800 (1600)							
DRIVE LINE	Spreader rotation	(deg)	+195/-105				+195/-105							
	Ground clearance	(mm)	250	250	250	300	250	300	300	250	300	250	300	300
	Aisle width with 20'-40' container	A1 - A2 (mm)	11200 - 13600				11600 - 13600	11600 - 13600	11600 - 13600	11900 - 13900	11900 - 13900	12200 - 14200	12200 - 14200	12200 - 14200
	Turning radius, outer with 20'-40' container	R1 - R3 (mm)	8100 - 9400				8500 - 9400	8500 - 9400	8500 - 9400	8500 - 9450	8500 - 9450	8500 - 9450	8500 - 9450	8500 - 9450
	Travel speed, fw unloaded - rated load / rw unloaded - rated load, max	(km/h)	28 - 22 / 18 - 18				28 - 22 / 18 - 18							
	Lifting speed, unloaded - 70% of rated load	(m/s)	0,42 - 0,25				0,42 - 0,25							
	Lowering speed, unloaded - rated load	(m/s)	0,36 - 0,36				0,36 - 0,36							
OTHER	Drawbar pull / towing capacity, max	(kN)	250				250							
	Tank volumes of working oil & brake oil	(l)	740 (600 + 140)				740 (600 + 140)							
	Working pressure boom/spreader, max	(MPa)	23 / 16				23 / 16							
	Noise level LpAZ (EN12053), inside cabin ²	(dB(A))	68 - 70				68 - 70							
	Noise level LpAZ (2000/14/EC), outside cabin ²	(dB(A))	103 - 106				103 - 106							

1. 4 + 2 pneumatic / diagonal tyres

2. Depending on ECO Drive Mode setting

Intermodal and Industrial Handling.

	DRG450-60C5E	DRG450-60C5XE	DRG450-65C5E	DRG450-65C5XE	DRG450-65C5XSE	DRG500-60A5E	DRG540-60A5XE	DRG540-65A5XE	DRG540-65A5XSE	DRG570-65ZE	DRG600-65ZXE	DRG600-65ZXSE		
MAIN DATA	Type of handling	Intermodal handling					Tool carrier				Lifting hook			
	Lift capacity, row 1-2-3 / load center L4-L8 ¹	Q1 - Q2 - Q3 - Q4 - Q5 (tons)	45 - 25 - 10	45 - 32 - 15	45 - 28 - 13	45 - 34 - 17	45 - 34 - 17	50 - 27 - 16 - 11	54 - 33 - 20 - 14	54 - 38 - 25 - 17	54 - 38 - 25 - 17	57 - 54 - 31 - 19 - 14	60 - 60 - 38 - 25 - 18	60 - 60 - 38 - 25 - 18
	Lift capacity, row 1-2-3 / load center L4-L8 ¹	Q1 - Q2 - Q3 - Q4 - Q5 (tons)	-	-	-	-	45 - 38 - 24	-	-	-	54 - 45 - 34 - 23	-	-	60 - 60 - 45 - 34 - 24
	Stacking capacity, in container row 1-2-3 of 8'6" / 9'6"	5/5 - 5/4 - 4/3					-						-	
	Load centre, from front face of tyres	L4 - L5 - L6 - L7 - L8 including jacks (mm)	1965 - 3815 - 6315	1865 - 3815 - 6315	1965 - 3815 - 6315	1865 - 3815 - 6315	1865 - 3815 - 6315	2000 - 4000 - 6000 - 8000 - 10000				1500 - 2000 - 4000 - 6000 - 8000		
	Lost load centre, to front face of tyres	X (mm)	835	935	835	935	935	835	935	935	935	835	935	935
	Wheelbase	L3 (mm)	6000	6000	6500	6500	6500	6000	6000	6500	6500	6500	6500	6500
	Service weight, standard truck	(kgs)	73500	81800	74100	81300	83500	63000	72600	74000	76200	61100	70900	72100
	Axle load, front at load centre L4, unloaded - loaded	(kgs)	41000 - 107000	42000 - 108000	41600 - 106000	42400 - 106800	44500 - 108900	29500 - 102800	29600 - 108800	31000 - 109600	33200 - 111800	26000 - 103500	27300 - 114600	28300 - 115600
	Axle load, front at load centre L5, unloaded - loaded	(kgs)	46700 - 91100	48000 - 105400	46900 - 94900	48000 - 106800	50200 - 109000	-				-		-
WEIGHTS	Axle load, rear at load centre L4, unloaded - loaded	(kgs)	32500 - 11500	39800 - 18800	35200 - 13100	38900 - 19500	39000 - 19600	33500 - 10200	43000 - 16300	43000 - 18400	43000 - 18400	35100 - 14600	43600 - 16300	43600 - 16300
	Axle load, rear at load centre L5, unloaded - loaded	(kgs)	26800 - 7400	33800 - 8400	27200 - 7200	33300 - 8500	33300 - 8500	-				-		-
	Tyres, dimension, PLY rating, star rating ²		18 x 25", PR40, E4	18 x 33", PR36, E4	18 x 25", PR40, E4	18 x 33", PR36, E4	18 x 33", PR36, E4	18 x 25", PR40, E4	18 x 33", PR36, E4	18 x 33", PR36, E4	18 x 25", PR40, E4	18 x 33", PR36, E4	18 x 33", PR36, E4	
	Tyre pressure (front - rear)	(MPa)	1,0 / 1,0					1,0 / 1,0				1,0 / 1,0		
WHEELS	Track width (front - rear)	S1 - S2 (mm)	3030 - 2600	3030 - 2800	3030 - 2600	3030 - 2800	3030 - 2800	3030 - 2600	3030 - 2800	3030 - 2800	3030 - 2800	3030 - 2600	3030 - 2800	3030 - 2800
	Boom angle, min - max	(deg)	0 - 60					0 - 60				0 - 60		
	Boom height, min - max	H3 - H5 (mm)	4600 - 18200	4700 - 18300	4600 - 18200	4700 - 18300	4700 - 18300	4600 - 18200	4700 - 18300	4700 - 18300	4700 - 18300	4600 - 18200	4700 - 18300	4700 - 18300
	Chassis height - top of boom fixation, max	H2 (mm)	3925	4025	3925	4025	4025	15150	15250	15250	15250	15300	15400	15400
	Lift height, min-max in twistlocks, row 1	H4 (mm)	14900	15000	14900	15000	14900	-				-		-
	Boom reach stroke	(mm)	7000					7000				7000		7000
	Truck height - seat height	H6 - H8 (mm)	4600 - 2575	4700 - 2675	4600 - 2575	4700 - 2675	4700 - 2675	4600 - 2575	4700 - 2675	4700 - 2675	4700 - 2675	4600 - 2575	4700 - 2675	4700 - 2675
	Overall truck length, without - with boom	L (mm)	11200	11200	11700	11700	11700	10800	10800	11300	11300	10900	10900	10900
	Truck width over drive axle	B (mm)	4150					4150				4150		4150
	Spreader sideshift	V1 (mm)	+/-800 (1600)					+/-450				-		-
DIMENSIONS	Spreader rotation	(deg)	+195° - 105°					+195° - 105°				360 endless		360 endless
	Ground clearance	(mm)	250	300	250	300	300	300				300		300
	Aisle width with 20'-40' container	A1 - A2 (mm)	11200 - 13600	11200 - 13600	11600 - 13600	11600 - 13600	11600 - 13600	-				-		-
	Turning radius, outer with 20'-40' container	R1 - R3 (mm)	8100 - 9400	8100 - 9400	8500 - 9400	8500 - 9400	8500 - 9400	8100	8100	8500	8500	9400	12450	12450
	Travel speed, fw unloaded - rated load / rw unloaded - rated load, max	(km/h)	28 - 22 / 18 - 18					28 - 22 / 18 - 18				28 - 5 / 18 - 5		28 - 5 / 18 - 5
	Lifting speed, unloaded - 70% of rated load	(m/s)	0,42 - 0,25					0,42 - 0,24				0,42 - 0,22		0,42 - 0,22
	Lowering speed, unloaded - rated load	(m/s)	0,36 - 0,36					0,36 - 0,36				0,20 - 0,36		0,20 - 0,36
DRIVELINE	Drawbar pull / towing capacity, max	(kN)	250					250				250		250
	Tank volumes of working oil & brake oil	(l)	740 (600 + 140)					740 (600 + 140)				740 (600 + 140)		740 (600 + 140)
	Working pressure boom/spreader, max	(MPa)	23 / 16					23 / -				23 / -		23 / -
	Noise level LpAZ (EN12053), inside cabin ³	(dB(A))	68 - 70					68 - 70				68 - 70		68 - 70
	Noise level LpAZ (2000/14/EC), outside cabin ³	(dB(A))	103 - 106					107 - 110				107 - 110		107 - 110
OTHER	1. Rows for Intermodal handling / Load center for Industrial handling													
	2. 4 + 2 pneumatic / diagonal tyres													
	3. Depending on ECO Drive Mode setting													



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Making your every move count

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