



Essential Reachstacker

DRU450 Range



More for your money

The Kalmar Essential Reachstacker gives you more for your money without compromising on quality.

Built on our G-Generation platform you get a machine that is reliable, robust, highly efficient and is available with either EU3 / Tier 3, EU4 / Tier 4F or EU5 emissions standards compliant engines.

A complete line-up

The Kalmar Essential Reachstacker, joins our Gloria and heavy lifting range to give you the broadest choice of reachstackers in the market. Our Essential Range will give you everything you need to get the job done efficiently at a great price, if you need more choice or a greater range of attachments or options you should consider our Gloria Range of reachstackers.



Our Essential Range is built on our proven and tested G-Generation platform and the experience of building over 10,000 reachstackers. Your drivers will benefit from common electronics and controls across the entire range for ease of operation.



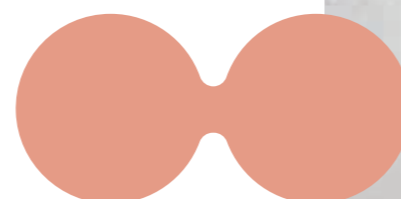
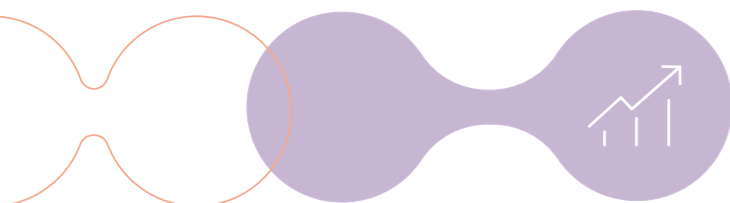
With easily accessible service points and extended servicing periods, maintenance tasks will be quicker and easier to perform. Increasing your machine availability.



Our new Essential Cabin has been ergonomically designed so everything is in easy reach for your drivers. You get a choice of joysticks, either will increase operational safety and control, as all movements can be managed from one point.



A quality build with high availability and excellent productivity.



Built on a proven platform

With 1000s of machines built on our proven G-Generation platform you can expect a reachstacker that is ready to take on any task.

Meet the Essential Range

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

We know you want a reliable machine, which is why our reachstackers are built on a proven and tested platform. You will benefit from:



A standard driver interface across the platform, making it easier for your operators to drive consistently and safely.



A common electrical system that helps with quick and easy troubleshooting by using common error codes.



Proven chassis design with high stability and durability.



A colour HMI screen and control system with improved diagnostic tools, so troubleshooting time is reduced, and high availability is maintained.



Only built with **branded quality components** from leading manufacturers.



More than 10,000 machines already built on the G-Generation platform.

With Kalmar quality built in

With Kalmar you should only expect the best, as our focus is on building a machine that will offer superior safety, driver comfort and be highly reliable.



Each of our machines has been designed to exceed the ISO 22915 standards, so you get a very safe and stable machine to operate.



We go to great lengths to choose and test all the components used to build our reachstackers, which are only supplied from leading manufacturers, to guarantee their quality and performance.



To avoid corrosion we treat all sensitive surfaces, steps, platforms, exhaust pipes, nuts and bolts, with long-life surface coatings or highly corrosion resistant material.



Highly efficient



Benefit from 10-20% reduction in fuel consumption.

Our Essential Reachstacker comes fitted with load sensing hydraulics and there is a range of the latest generation of engines and transmissions to choose from. You will get a highly efficient and powerful machine that uses less fuel, produces less emissions, costing you less, while maintaining productivity.

Our Load Sensing Hydraulic systems measures your load and then generates the required amount of power to lift or lower it efficiently. Delivering you the power you need while reducing the energy consumed.

Intelligent and efficient drivelines

You will benefit from a 10-20% reduction of fuel consumption and exhaust emissions over our previous generation of machines, as we have combined the newest highly efficient engine technology, in either EU3 / Tier 3, EU4 / Tier 4F or EU5 compliant alternatives, with the latest 5-speed DANA TE-30510 transmission, which is designed especially for heavy duty material handling applications, with 5 gears instead of 4 gears. With significant reductions in energy loss from the gearbox and fuel consumed from the engine, you get a smart solution that will cost you less in the long run.

More choice

Handle bulk materials with ease.

Our range of Essential Reachstackers can be fitted with a tilting spreader that allows you to handle containerised bulk materials easily. With the ability to tilt lengthways or sideways up to 55 degrees and to shake the contents of 20, 30 or 40ft containers free, you will be able to handle bulk materials quickly and efficiently. Kalmar's tilting spreader is also able to open either the side door or the top hatch to ready the container for emptying. The Kalmar Essential Reachstacker can handle loads up to 32 tonnes in tilt mode and 45 tonnes in standard lifting mode when fitted with one of our special tilting spreaders.

Three driveline combinations to choose from

All three drivelines come with a 5+3 transmission and EU3 / Tier 3, EU4 / Tier 4F or EU5/Korea Stage V emissions standards compliant engines.

Engine	Volume	Power	Transmission
Cummins QSM-11-C330 EU3	10.80L	246kW	DANA TE-30510 5+3
Volvo TAD-1150-VE EU3	10.84L	235kW	DANA TE-30510 5+3
Volvo TAD-1181-VE EU5/Korea Stage V	10.84L	265kW	DANA TE-30510 5+3



Designed for the driver

The Kalmar Essential Cabin

The well-designed, spacious cabin offers great visibility both forward and backward. An adjustable seat and steering wheel, power-assisted steering, and a choice of joysticks.



You can choose from two different joysticks: our F-Generation joystick (Cobra) or our ergonomically designed G-Generation joystick (Kalmar EGO joystick with FNR button). Both joysticks will help keep your driver in complete control as all operations can be managed from one place.



Our improved electronic climate control package: ensures your drivers will be comfortable, no matter what the weather. It includes extra strong fans to remove condensation quickly and to maintain a steady temperature in the cabin. And you can keep your operators out of the sun with visors that can be fitted on the front, rear or roof windows of the cabin.



With the Kalmar Essential Reachstacker you get more features as standard: sliding side windows, colour operator displays, wipers on the front and roof of the cabin.

Keeping your drivers safe

The safety of your drivers is of critical importance, which is why our machines come with many more safety features fitted as standard than other machines available in the market:

- There are doors on both sides of the cabin in case your operator needs to leave the cabin quickly in case of an emergency.
- Openable side window in the cabin for easy communication.
- Rear-view mirrors mounted on the front mudguards so your operator can see behind him easily.
- Overload protection system that will warn the driver if the load exceeds the specified limits.
- Kalmar designed steering axle with extra wide tracking for increased stability.
- A fail-safe seat switch that will not allow the machine to be started without the operator in the seat.
- An electrically operated hand brake that is automatically applied as soon as your engine is turned off, bringing your machine to complete stop.

You can also enhance your employees' safety further by fitting your machine with an optional Reverse Warning System, Alcolock, Speed Limiter or additional LED lights.





 A quality build with high availability and excellent productivity.

Upgrade options

Kalmar has a range of options that make operating your equipment even safer.



Rear mounted camera. Knowing what's going on behind you is critical when other personnel are present. A rear mounted camera can provide real time information to an in-cabin display, helping improve personnel and driver safety. You can also add a Reverse Warning System, with both camera and rear ultrasonic sensors, to further increase your level of safety.



Alco-Lock. To ensure 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.



Fire Suppression System*. To protect your operator and machine from fire you can fit a Fire Suppression System* 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.

Kalmar has a range of options that make operating your equipment more productive.



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.

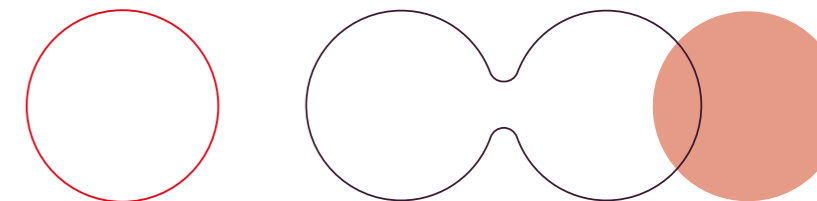


Start/Stop function. An optional start/stop function can be added to automatically activate and deactivate the machine. In addition to reducing unnecessary emissions and extending the lifespan of components, this makes it possible to achieve up to 10% in fuel savings.



Various speed limiters. Allows you to program and set various speed limits to reduce fuel consumption, improve operational safety, cater for area speed restrictions, lift heights and loads to be transported. These settings cannot be exceeded by your drivers.

* Cannot suppress a battery fire.





Safety fitted as standard

For Kalmar, the safety of your drivers and maintenance staff is of critical importance, which is why our machines come with many more safety features fitted as standard than other machines available in the market.

The features listed here come fitted as standard on all Kalmar machines. You can enhance your employees' safety further by fitting your machine with our additional safety options listed on the following pages.

All Kalmar equipment is compliant with EN 1175:2020.

At Kalmar, the safety of people working with our machines is always at the top of our minds, which is why meeting global safety standards is important to us. The safety standard EN 1175:2020, which sets the electrical and electronic component standards for industrial trucks, has been updated to improve the safety of these machines while in operation. This update is valid from April 2023. All Kalmar counter balanced machines, including reachstackers, empty container handlers and forklifts have been updated to meet this new standard to ensure that working with a Kalmar machine is as safe as it can be.



2-point seat belt. Ensures that your driver is safe and secure while operating our equipment, all Kalmar machines are equipped with an adjustable 2-point seat belt system.



3-point Contact System. Makes sure your drivers are safe when entering or exiting our equipment. All machines are fitted with steps and handles to ensure they can always maintain three points of contact with the vehicle, helping to keep them safe and preventing incidental injuries.



Double brake pedals. To avoid driver leg fatigue, every machine is equipped with dual brake pedals which require only heel to toe movements, allowing the driver to move his foot between the accelerator and brake pedals without having to move their leg.



Steps with anti-slip protection. To reduce the risk of your driver slipping or falling on our equipment, all entering and exiting points are fitted with non-slip surfaces giving them extra grip, so your drivers stay safe.



Control System. All our equipment is fitted with an electronic Control System for monitoring the machine's different functions while in operation, helping to keep your driver fully informed at all times with up-to-date Operating, Event Controlled and Error Code information.



Operating information. Our equipment's Control System provides several operating information menus, which give your operator and maintenance personnel a great insight into the on-going performance of the machine, allowing them to keep it running optimally.



Event controlled information. Provided through the Overload Protection System to warn the driver through the equipment's Control System if their load exceeds the specified safety limits.



Error code information. Should there be any issue with your equipment while in operation, the electronic control system will immediately alert your driver with the appropriate error code, so they know exactly what is going on and can take appropriate action.



Display. Cabins are fitted with a large easy to read display which keeps your drivers fully aware of the machine's on-going performance and any maintenance actions that need to be taken.



Control Breaker System for load handling. All of our equipment is fitted with a Control Breaker System, which automatically shuts down the load handling system should a fault occur, until the fault has been corrected. Keeping your driver, equipment and load safe.



External reverse light. For the safety of others, all our equipment is equipped with external reversing lights that help the driver keep everyone informed that they are moving backwards.



Operator Presence Detection System. Maintains the highest levels of safety for both the driver and pedestrians, as all our equipment is fitted with an alarm or visual indicator that comes on automatically if:

- The driver does not fasten their seat belt while in operation.
- The driver leaves their seat without engaging the parking brake.

In addition, if the driver leaves their seat while the machine is operational, the transmission is automatically shifted to neutral and load-handling functions are disabled.



Engine/transmission Protection and Warning Systems. Warning systems, designed to protect your machine's driveline in case of higher than expected temperatures or a pressure build up, are standard on all equipment, avoiding unnecessary mechanical failures.



LED lights. These come fitted as standard on all our equipment, providing better visibility when working in reduced light than halogen lights.



Neutral start switch. A neutral start switch means your driver can't start his machine while it is in gear, preventing any damage to the driveline and any uncontrolled equipment movements.



Protection against falling objects. Cabin roof windows on all our equipment are fitted with high strength materials which can withstand heavy blows, helping to protect your drivers from falling objects.



Good visibility. Kalmar cabins provide your drivers with excellent visibility, forwards, upwards, sideways and behind them to help them stay safe while in operation.



Anti-slip Protection Tape on fenders and tanks. Anti-slip Protection Tape provides additional traction on fenders and tanks to reduce any slipping hazards for driver's and maintenance personnel while working on your Kalmar Reachstacker.



Reverse Camera System. Knowing what is going on behind you is critical when reversing your Kalmar Reachstacker, which is why they are all fitted with a high resolution [1080p] cabin display screen and reversing camera providing excellent reward visibility.



Speed Limiter outside transport mode. Makes sure your Kalmar Reachstacker is always operating at a safe speed when it isn't carrying a load, helping to reduce the risk of accidents and promoting safe operating practices.



Towing Coupling with removable pin. Should something go wrong with your Kalmar Reachstacker we have made it safer to use both tow bars and tow slings making it quicker and easier to recover your machine.



Keep moving with Kalmar Services

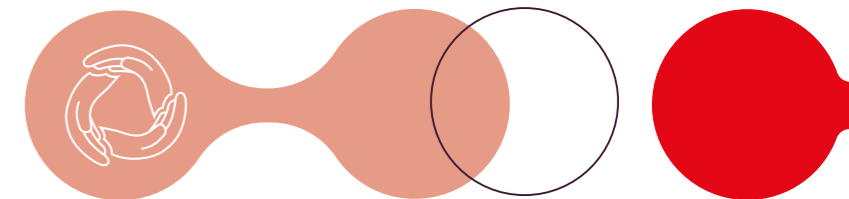
To keep your business moving Kalmar Services offers a range of services that can help you keep your equipment moving optimally.

Kalmar Care

Care that keeps your business moving.

With Kalmar Care you get a flexible service that's built around your business. Including, the experience and knowledge of Kalmar's dedicated staff, coupled with transparency and increased predictability of costs.

Kalmar Care is available in three different service models: our two customisable contracts – Essential Care and Complete Care – and our flexible solution On Demand Care.



Service models:



Essential Care

A maintenance solution to keep your equipment in an optimal condition.



Complete Care

A complete service solution providing piece of mind and maximum equipment uptime.



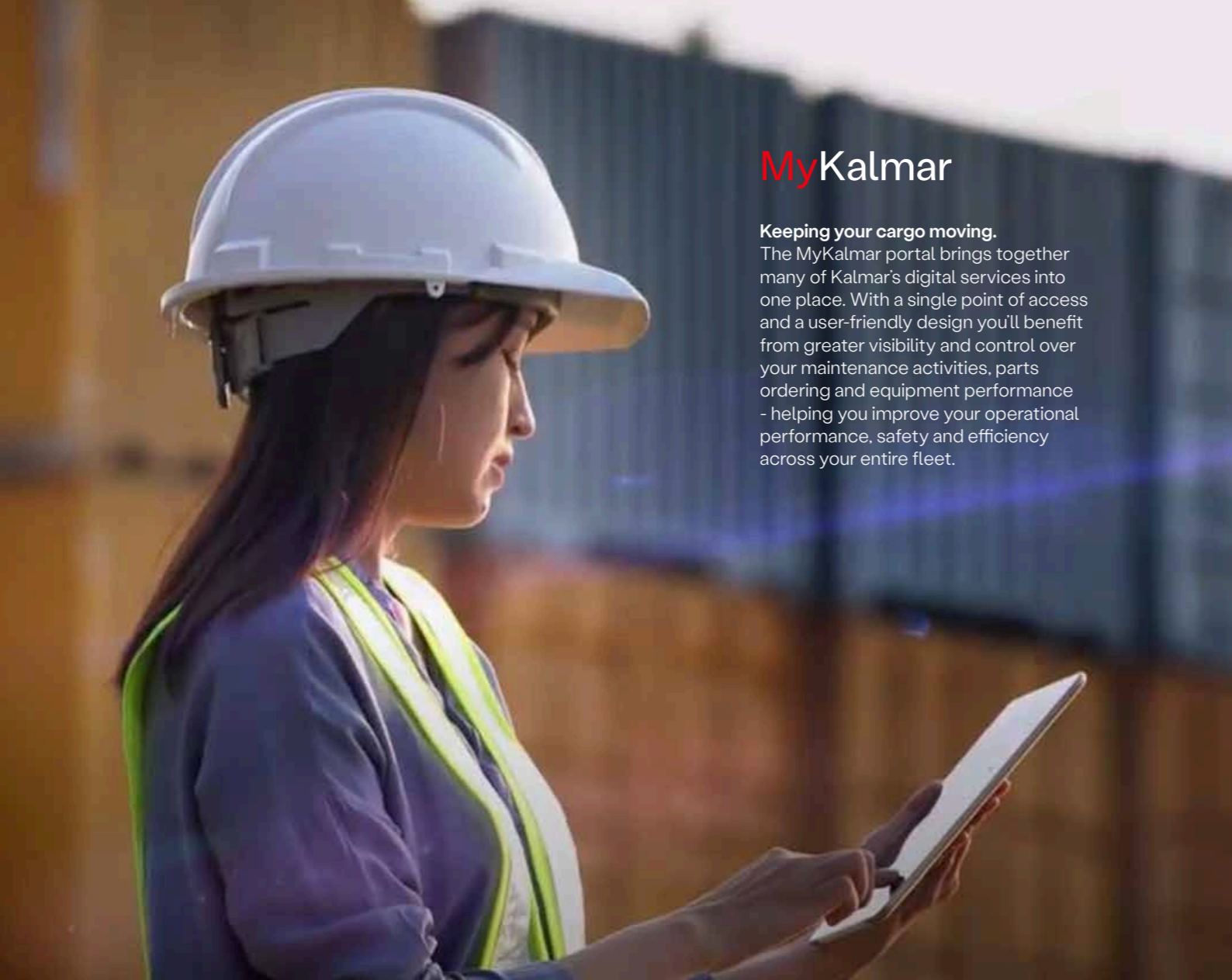
On Demand Care

Top-of-the-line service whenever you need it.

Maintenance Planning	●	●
Preventive Maintenance	●	●
Predictive Maintenance		●
Corrective Maintenance		●
Preventive Spare Parts	●	●
Corrective Spare Parts		●
Lubricants	●	●
MyKalmar	●	●
Kalmar Insight	●	●
Tyre Maintenance		●
Battery Maintenance		●

● Included ● Optional

Top-of-the-line service
whenever you need it



MyKalmar

Keeping your cargo moving.

The MyKalmar portal brings together many of Kalmar's digital services into one place. With a single point of access and a user-friendly design you'll benefit from greater visibility and control over your maintenance activities, parts ordering and equipment performance - helping you improve your operational performance, safety and efficiency across your entire fleet.

Kalmar Insight

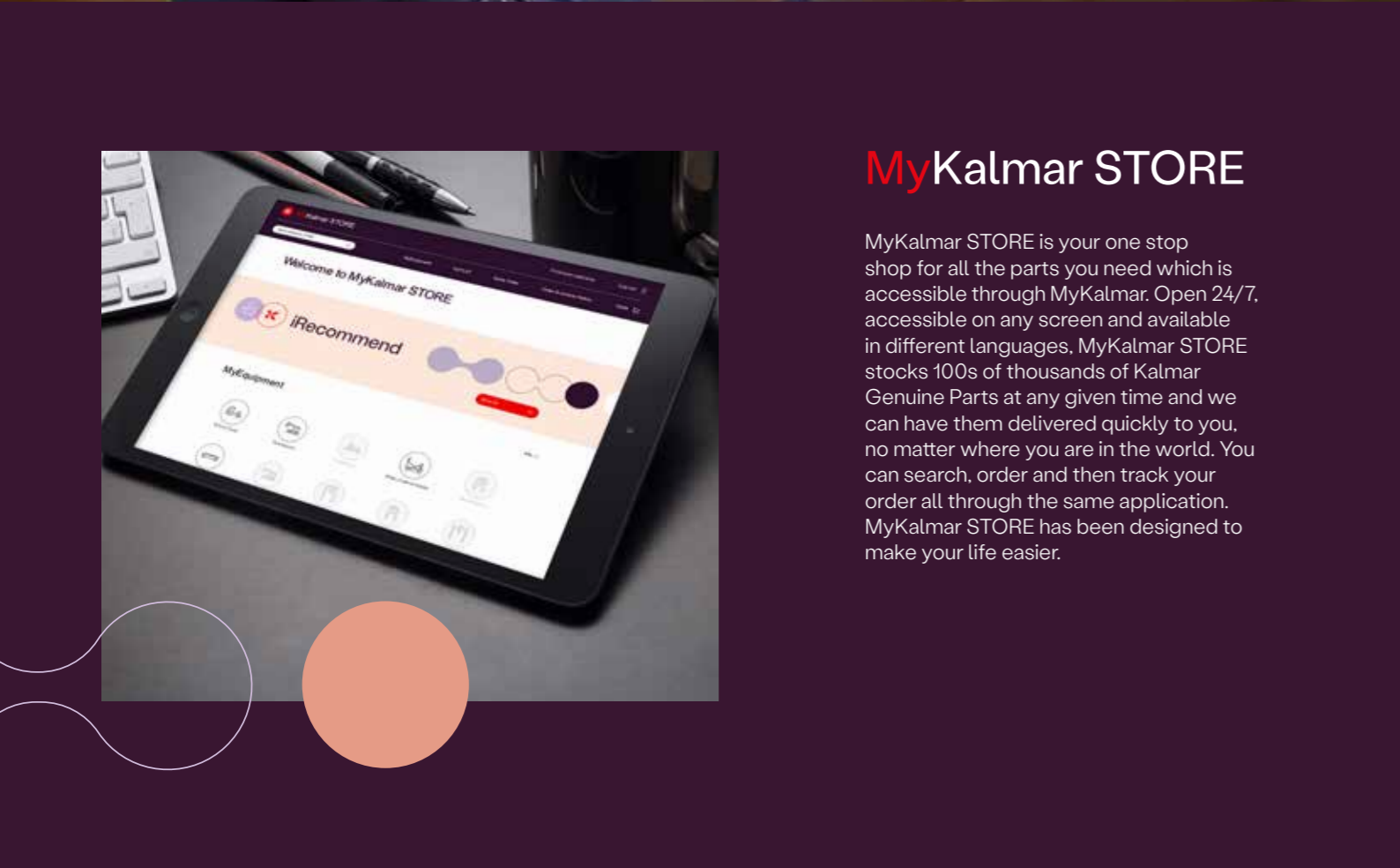
Optimise your operations with Insight.

Kalmar Insight* is a performance management tool for cargo handling, which gives you an easy to use overview of your fleet operations, by aggregating data from multiple sources, including equipment built by other manufacturers. Review your entire fleet activities, schedule maintenance activities and

order the required parts automatically. All enabling you to take action on real-time information, that will help improve your overall operations immediately. Kalmar Insight comes fitted and ready to be activated in all new Kalmar equipment, it can also be retrofitted into existing Kalmar equipment or those built by other manufacturers.



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



MyKalmar STORE

MyKalmar STORE is your one stop shop for all the parts you need which is accessible through MyKalmar. Open 24/7, accessible on any screen and available in different languages, MyKalmar STORE stocks 100s of thousands of Kalmar Genuine Parts at any given time and we can have them delivered quickly to you, no matter where you are in the world. You can search, order and then track your order all through the same application. MyKalmar STORE has been designed to make your life easier.

Kalmar Training

Enhance your skills.

To get the most out of your new machine our training centre offers a range of courses for both your technicians and operators. Operators can be taught how to drive the machine for optimum performance and minimum waste, and to learn what needs to be checked daily for optimal safety. Technicians can be educated with the knowledge they need to keep your new equipment in top condition in a safe way. Courses are a mix of theory and hands-on experience.



Specifications

			DRU450-62S5	DRU450-62S5X
MODELS LIFTING CAPACITY	Container Handling			
	Lift capacity, row 1-2-3-4	Q1 - Q2 - Q3- Q4 tonnes	45 - 31 - 15	45 - 36 - 19
	Lift capacity, row 1-2-3-4 (with jacks)	Q1 - Q2 - Q3- Q4 tonnes	-	-
	Load centre, from front face of tyres, row 1-2-3-4	L4 - L5 - L6 - L7 mm	1965 - 3815 - 6315	
	Stacking capacity, in container row 1-2-3-4 of 8'6" / 9'6"	mm	5/5 - 5/4 - 4/3	
	Lost load centre, to front face of tyres	X mm	835	935
	Wheelbase	L3 mm	6250	
WEIGHTS	Service weight, standard truck ¹	kg (kgs)	69800	76900
	Axle load, front at load centre L4, unloaded - loaded	(no jacks) kg	35000 - 100200	36000 - 101200
	Axle load, front at load centre L5, unloaded - loaded	(no jacks) kg	39200 - 93300	103800 - 40400
	Axle load, rear at load centre L4, unloaded - loaded	kg (kgs)	34800 - 14600	40900 - 20700
	Axle load, rear at load centre L5, unloaded - loaded	kg (kgs)	30600 - 7500	36500 - 9100
DIMENSIONS	Boom angle, min - max	deg	0 - 60	
	Boom height, min - max	H3 - H5 mm	4700 - 18200	
	Chassis height - top of boom fixation, max	H2 mm	3925	4050
	Lift height, max	H4 mm	1150 - 15100	1250 - 15200
	Boom reach stroke	mm (deg)	7000	
	Truck height - seat height	H6 - H8 mm	2575	2675
	Overall truck length with boom	L mm	11400	
	Truck width over drive axle	B mm	4150	
	Spreader sideshift	V1 mm	+/-800	
	Spreader rotation	deg (mm)	+195/-105	
	Number of rotation motors and rotation brakes	H6 - H8 (mm)	2 + 2	
	Ground clearance	min mm	250	
	Aisle width with 20'-40' container	A1 - A2 mm	11400 - 13600	
	Turning radius, outer with 20'-40' container (at 90 degree turn)	R1 - R3 mm	8300 - 9400	
Turning radius, outer (at 90 degree turn)	R1 mm	-	-	
WHEELS	Wheels	Number of wheels, front - rear (x = driven)	4 - 2	
	Tyres	Pneumatics, type / pressure (front - rear)	Diagonal / 1.0	
		Dimensions, front - rear	18.00x25" / PR40	18.00x33" / PR40
	Rims	Dimensions, front - rear	13.00x25"/2.5	13.00x33"/2.5
	Track width (front - rear)	S1 - S2 mm	3030 - 2600	
AXLES	Steer axle	Manufacturer, type - designation	Kalmar steer axle / hydraulic power steering / double acting single cylinder	
	Drive axle	Manufacturer, type - designation	(km/h) Kessler - D102PL341/528-NLB	
	Service brakes	Type - affected wheels	(km/h) Oil cooled wet disc brakes (WDB) / drive wheels	
	Parking brake	Type - affected wheels	(%) Single dry disc / spring activated - hydraulic release / drive wheels	
HYDRAULICS	Hydraulics	System type / pump type	Load-sensing function / power-on-demand / variable piston pumps	
	Oil pressure	Max working pressure boom / spreader	MPa	23 / 16
	Tank	Oil volume	Lit (dm3)	740 (600 + 140)
		Fuel tank, capacity	Lit	550
	AdBlue tank, capacity	Lit	35	

Notes:
1. Service weights / axle loading: values with standard configuration.

Drivetrain

MODELS		Cummins	Volvo	Volvo
Wheelbase	mm	6250	6250	6250
Drive motor, manufacturer - type designation		QSM-11-C330	TAD-1150-VE	TAD-1181-VE
Fuel types, motor type ¹		Diesel / HVO / 4-stroke	Diesel / HVO / 4-stroke	Diesel / HVO / 4-stroke
Turbo charger / cooling		Turbo (FGT) / Intercooler	Turbo (FGT) / Intercooler	Turbo (FGT) + EPG / Intercooler
Engine after treatment type		No AdBlue, DOC, DPF, ASC and SCR	No AdBlue, DOC, DPF, ASC and SCR	With AdBlue, DOC, DPF, ASC and SCR
Diesel particle filter (DPF)		No DPF	No DPF	With DPF
Emission standards		EU Stage IIIA / EPA Tier 3	EU Stage IIIA / EPA Tier 3	EU Stage 5 / EPA Tier 4f / Korea5 / China Stage IV
Rated power / at revs (ISO 3046)	kW / rpm	246 / 2100	235 / 2100	265 / 2100
Peak power / at revs (ISO 3046)	kW / rpm	248 / 1800	235 / 1450-2100	265 / 1450-2100
Peak torque / at revs (ISO 3046)	Nm / rpm	1674 / 1400	1581 / 1300	1795 / 1400
Number of cylinders / displacement	lit (in3)	6 / 10.800 (660)	6 / 10.840 (661)	6 / 10.840 (661)
Fuel consumption, normal driving ¹	lit/h	14 - 18		
AdBlue ² consumption, normal driving	%	-	-	4 - 6
Manufacturer's type designation		Dana TE-30510		
Clutch, type		Torque converter		
Transmission, type		Hydrodynamic Powershift		
Numbers of gears, forward / reverse	gears	5 / 3		
Alternator, type / power	W	AC - 3360 (28 / 120)	AC - 3080 (28 / 110)	AC - 3080 (28 / 110)
Starting battery, voltage / capacity	V / Ah	2x12 / 145		

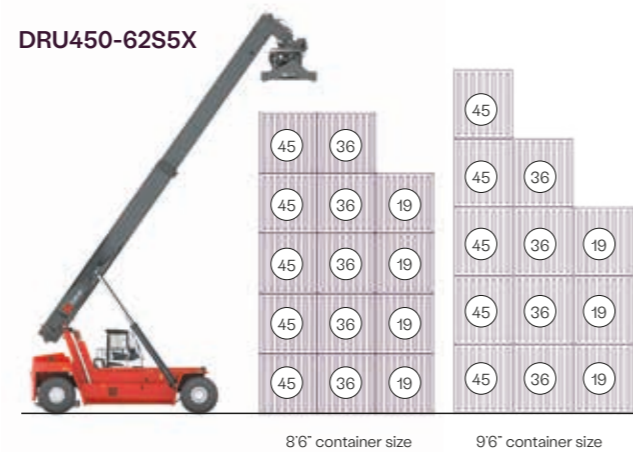
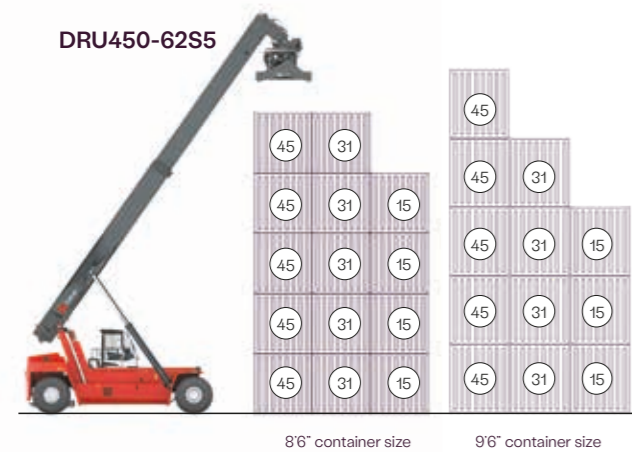
Notes:
1. Regular diesel based on EN590 (ASTM D975 no. 2-D) Synthetic / paraffinic diesel based on EN 15940.
2. AdBlue / Diesel Exhaust fluid (DEF) doser unit Diesel Oxidation Catalyst (DOC) Diesel Particulate Filter (DPF) Selective Catalyst Reduction (SCR) Ammonia Slip Catalyst (ASR)



Performance

Models				DRU450-62S5	DRU450-62S5X
Wheelbase				QSM-11-C330 & TAD-1150-VE (EU Stage IIIA / EPA Tier 3) TAD-1181-VE (EU Stage 5 / EPA Tier 4f / Korea5 / China Stage IV)	
SPEED	Travel speed, forward - reverse	Unloaded / At rated load	km/h	26 - 22 / 18 - 16	
	Lifting speed	Unloaded / At 70 % of rated load	m/s	0.42 / 0.25	
	Lowering speed	Unloaded / At rated load	m/s	0.36 / 0.36	
POWER	Gradeability, max	Unloaded	%	45	40
		At rated load	%	24	23
	Gradeability, at 2 km/h	Unloaded	%	32	29
		At rated load	%	18	17
Drawbar pull		kN	295	295	
SOUND	Noise level, inside SD3 cabin	EN12053, LpAZ	dB(A)	70 - 72	
	Noise level, outside	EN12053, LWAZ	dB(A)	107 - 109	
	Noise level, outside	2000/14/EC, LWAZ	dB(A)	108 - 111	

Lifting capacity



MODEL DESIGNATION

DRU 450 - 62 S5X

- Diesel _____
- Reachstacker _____
- Generation _____
- First row capacity _____
- Wheelbase _____
- Spreader, type of handling:** _____
S = Toplift
- Stacking height:** _____
5 = 5/5 high
- Big wheels _____





Kalmar

www.kalmarglobal.com

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2024-09-04

