



# 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.

#### Additional benefits of a common platform.

A standardised driver control panel: all machines built on this platform have the same operator controls and interface, making it easier to move from one type of machine to another.

**Common electrical systems:** uses standardised error codes for fast and easy trouble shooting.

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

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

#### 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.









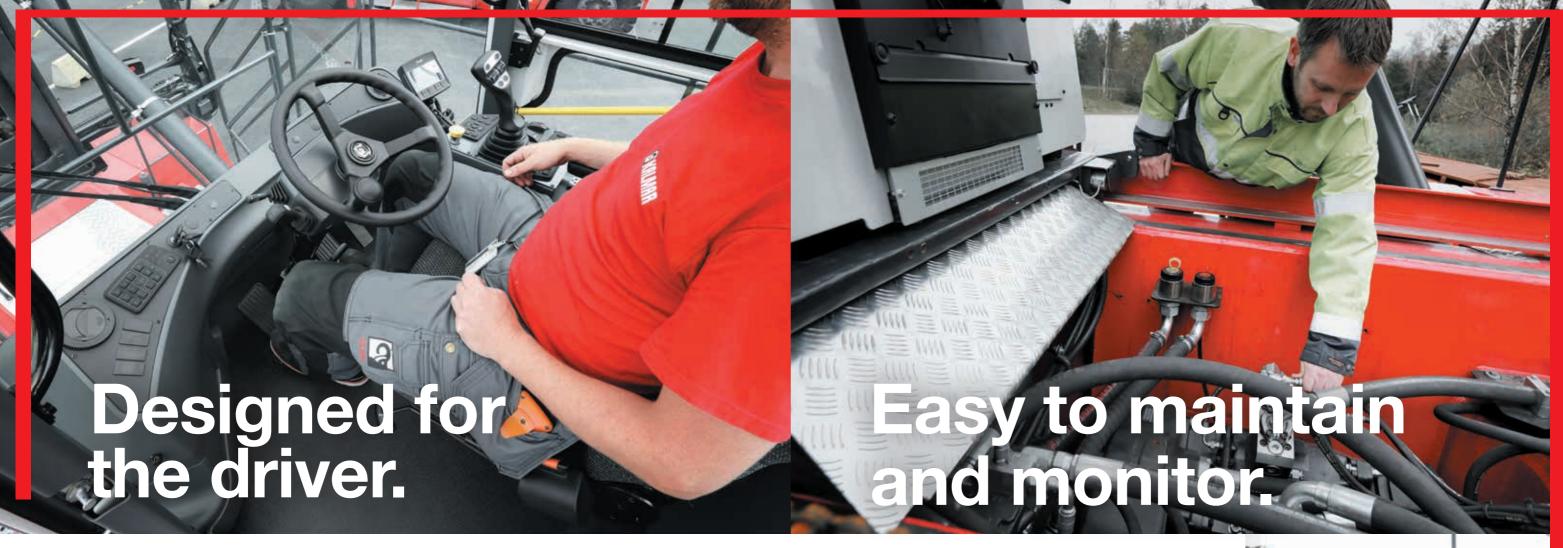
The safety of your drivers is of critical importance, which is why our machines come with many more safety features fitted as standard than other machines available in the market:

- Extra safe access to the cabin with non-slip surfaces and extra safety rails that allow your operator to meet the 3-point contact rule.
- There are doors on both sides of the cabin in case your operator needs to leave the cabin quickly in case of an emergency.
- Excellent visibility from the cabin, giving you a much better view forwards and upwards.
- 2-point seat belts fitted to keep your operator secure.
- Openable side window in the cabin for easy communication.
- Rear-view mirrors 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.
- LED lights as standard, for better visibility when working in reduced light.
- Kalmar designed steering axle with extra wide tracking for increased stability.
- A fail-safe seat switch that will not allow the machine to be started without the operator in the seat.
- An electrically operated hand brake that is automatically applied as soon as your engine is turned off, bringing your machine to complete stop.

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







# Introducing the new Essential Cabin.

The Kalmar Essential Cabin has everything your drivers need to operate at their best.

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



You can choose from 3 different joysticks: our F-Generation joystick (Cobra), our ergonomically designed G-Generation joystick (Kalmar EGO joystick with FNR button) or the Essential joystick (Elobau). All joysticks will help keep your driver in complete control as all operations can be managed from one place.



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



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











# Easy to maintain, with industry leading service intervals.

Performing daily inspections and routine servicing is quick and convenient with all check points easily and safely accessible. The electrical cabinet is convenient to access and when the hatch covers are raised, the hydraulic filters, servicing points and the entire driveline can be reached from one location. With industry-leading service intervals, your machine will spend less time being maintained and regular service tasks can be done quicker and more efficiently, all helping to increase the overall availability of your machine.

# Optimise your operations with Insight.

Kalmar Insight\* is a performance management tool for cargo handling, which gives you an easy to use overview of your fleet operations, by aggregating data from multiple sources, including equipment built by other manufacturers. This information is then accessed through an easy to use interface that is available on mobile, tablet or more traditional screens. You can review your entire fleet activities, schedule maintenance activities and order the required parts automatically. All enabling you to take action on real-time information, that will help improve your overall operations immediately. Kalmar Insight comes fitted and ready to be activated in all new Kalmar equipment, it can also be retro fitted into existing Kalmar equipment or those built by other manufacturers. Kalmar Insight, turning data into actionable, impactful insights.



# Kalmar Training Centre.

For your team to get the most out of their new reachstacker, the Kalmar Training Centre offers a range of courses for both your technicians and operators. Operators will be shown how to optimise their day-today operational performance and what needs to be checked daily on the machine before operations begin Technicians will be given the knowledge needed to keep your new machine in top condition. Courses are a mix of theory and hands-on experience and can be held at Kalmar or at your site.



# A range of options.



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.





- Flashing LED brake lights when reversing
- Additional LED lights on the boom (front or middle), spreader, front mudguards, cabin

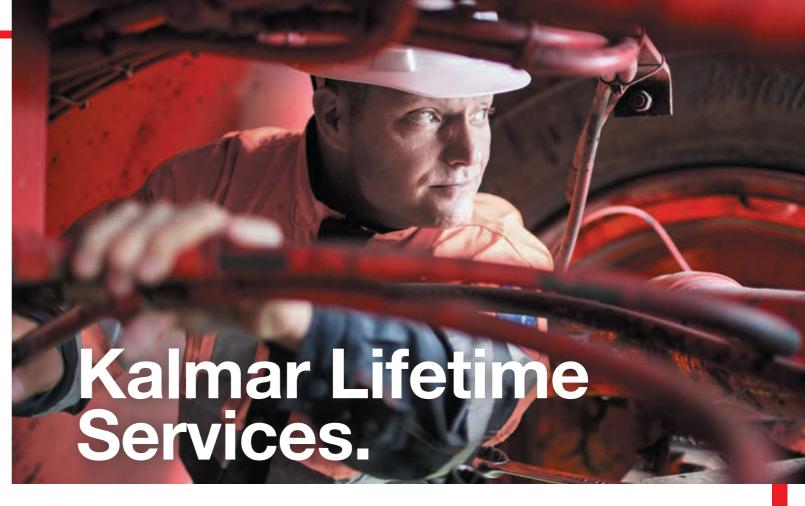


To protect your operator and machine from fire you can fit a FSS to your machine. The system utilises multiple spray nozzles that release a high-pressure water mist where the fire has been detected from a re-chargeable water tank. This can be activated manually or automatically through an in-cabin temperature sensor.

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

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

**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.



# Making sure your business never stops.

We offer four different types of service and maintenance contracts. Each is designed to help you improve your operational efficiency, drive productivity and secure financial predictability. Each contract type includes a set of standardised service modules to meet your business needs.

#### The four flexible types of service contracts.

#### **Kalmar Support Care**

We support your maintenance processes on demand.

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

#### Kalmar Essential Care

We perform your agreed maintenance tasks proactively.

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

#### **Kalmar Complete Care**

We meet your complete maintenance requirements.

- Predictive maintenance planning
- Low operational risk to customer

· Reduced equipment down-

- Reduced total cost of
- operation Increased operational
- predictability.

#### **Kalmar Optimal Care**

We optimise your business performance.

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

# Kalmar Genuine Parts. when the right part matters.

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



## Financing options for you.

You may choose to buy your new reachstacker outright or consider leasing or renting your equipment. Kalmar offers a range of leasing and rental options that give you the financial predictability you need and the option to upgrade your equipment after a fixed period. With our leasing packages, you can focus on your core operations, while we perform all your service and maintenance needs. Kalmar can also look at you trading-in your old equipment.

# Standard.

Kalmar DRU450S (S = Toplift)

#### Norms, standards and regulations according to:

- Machinery Directive 2006/42/EC
- Safety Reachstackers ISO 3691-1
- Safety Low & High Lift Trucks ANSI/ITSDF B56.1
- Stability of Reachstackers ISO 22915-12
- CE-marking for trucks within EU/EEA
- ANSI/ITSDF-marking for North America trucks

- Strong, durable heavy-duty chassis for reachstackers
- Safe access steps, platform & handrails (LHS)
- Long bottom access step (on both sides)
- Lifting eyes and anchor points (front & rear)
- Good visibility over rear of truck
- Open chassis with full access to the driveline
- Easy-to-open driveline cover plates (low noise)
- Lifting eyes and anchor points (front & rear)
- Towing pin (rear incasted)

- Steps with anti-slip protection of Magnelis type
- Rear view mirrors (2x) on front mudguards
- Strong and protective mudguards (front & rear)

#### Steer Axle (rear)

- Kalmar steer axle, dual pivot bearings
- Steer axle with mechanical side stops (±3 deg)
- El-servo power steering with double acting cylinder
- Steer axle with narrow turning radius

#### **Drive Axle (front)**

- Durable planetary drive axle
- Axle with 2-stage hub reduction and differential
- Wide axle for high side stability (4150 mm)
- Strong and powerful oil-cooled Wet Disc Brakes High pressure filter (10 my) for the brakes (WDB)
- Separate brake oil tank (140 lit), cooling &
- breather filter

#### Wheels (tyres & rims)

- Drive tyres (4x); 18.00x25"
- Steer tyres (2x); 18.00x25"
- Standard rim
- Wheel nut protection on steer tyres
- E4 tyres

#### **Driveline (CanBus)**

- Volvo and Cummins diesel engines (6-cylinder)
- Durable and strong engines with pre-heater • Emission approval EU3/EU4/EU5 or EPA Tier 3-4F
- Engine monitoring and protection system
- Fully automatic transmission DANA TE-30500 (5+3)
- Transmission monitoring and reverse protection
- Efficiency package for lower fuel consumption
- Declutch function activated by brake pressure
- Efficient radiators for engine, transmission & brakes
- Diesel tank (550 I), cooling & breather filter
- Noise efficient muffler and tall exhaust pipe

#### **Efficient Hydraulics**

- Load-sensing variable piston pumps
- Power-on-demand with high lift & lowering speeds
- Pumps for boom, spreader, brakes & steering • Gear pumps for brake pressure & oil cooling (2x)
- Return filters for the work hydraulics (2x/10 my) Servo filter for the work hydraulics (1x/10 my)
- Pressure filter for hydraulics / brakes (2x/10 my)
- Regenerative high-speed lifting & extension
- Power steering, power brakes & ORFS-couplings
- Hydraulic tank (600 Lit), with breather filter
- Separated dual oil tanks

#### Lifting boom

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

Information systems

analysis

(unem qu-qoq)

(pop-up menu)

Operator menu:

System voltage

• Travelling speed (km/h or mph)

• Transmission oil temperature

• Engine coolant temperature

• Operating time (hours)

(hour/min)

Service indicator

Pop-up menu:

· Charging battery

Failure indicator

Low brake pressure

• Boom extension & Boom angle

• Service time indicator (hours)

• Status of heating system & AC system

• Fuel level (diesel and optional AdBlue)

• Electronic weight scale in main display

Overload warning in spreader / boom

Various warning lights & signals:

• Safety system disconnected

Transmission oil temperature

Safety system disconnected

• Cabin: Light-Grey RAL 7035

• Rims: Light-Grey RAL 7035

**Documentation and decals** 

• Load chart diagram inside cabin

• Information & joystick stickers

· Low engine oil pressure

Preheating engine

 Low fuel level Hvdraulic oil temperature

Indicator lamps:

Direction indication

Fleet Management:

Kalmar Insight

Fuse diagram

Instruction manual

Maintenance manual

• Spare parts catalogue

Head beam

Parking brake

High engine coolant temperature

• Low engine coolant level (Volvo only)

• Equipped with telemetric hardware for

• Chassis, tanks & mudguards: Red RAL 3000

• Boom, attachment & axles: Black RAL 7021

• Machine data sign on chassis incl. load chart

• Warning, tyre pressure & oil pressure stickers

Overload warning steering axle (high or low)

• Estimated operating time before empty tank

• Engine oil pressure & oil level (Volvo)

• Engine oil pressure only (Cummins)

Actual gear

• Engine rpm

• CECS 2.0 Kalmar intelligent control system

• Colour display (DM430E) with automatic fault

Longitudinal Load Moment Indicator (LLMI)

Longitudinal Load Moment Control (LLMC)

• Electronic weight scale in main display (LLMC)

• Combined hydraulic and brake oil temperature

Load weight (capacity) & Load distance (LC)

Menu control with toggle wheel & push buttons

• Electronic safety, overload, scale & synchronized lift

• HMI based on TFT-display 4,3" (109mm)

- Boom end-damping (in-out/up-down/20-40')
- Lift booms with an extension stroke of 7.0 m.
- Duplex 2-stage S5/5 (H4 = 1,15-15,10 m)

#### Attachment Toplift (S)

- Top lift 45 tons, hydraulic chain extension 20'-40'
- 4 floating twistlocks & LED-indication lamp panel
- Safety locking, alignment pins & sensors (4x)
- Large sideshift of ±800 mm • Rotation +195/-105 deg (2 motors & 2 brakes)
- Mechanical Pile Slope (MPS) ±5 deg
- Lift hooks for slings on end beams (4x)

#### Electronic System 24V (G-Generation)

- Fully redundant 24V electrical system
- Battery box 2x12V & main power switch
- Electric service box on chassis (LHS)
- 2 working LED-lights on front mudguards
- (head beam
- 2 working LED-lights on boom (lift cylinders 20ft)
- 2 working LED-lights on spreader (twistlocks)
- 2 working LED-lights on counter weight (when reversing)
- 2 position LED-lights on each side of the truck
- 2 tail / brake LED-lights on counter weight (rear)
- 4 blinker LED-lights (front rear / left right)
- Flashing LED-brake lights (when reversing)
- 1 rotating warning LED-beacon (on pole / LHS) • 1 reverse signal / alarm (buzzer when reversing)

## **Essential Cabin**

#### Structure

- Spacious, modern, ergonomically designed cabin
- Large windows, good visibility, in all directions
- In-step handle (left side)
- Sliding window on both sides
- Tinted tempered windows
- Manual moveable cabin (stroke 2375 mm)

## Comfort

- Comfortable seat, mechanical spring, high back
  Adjustable armrest (RHS) & 2-point safety belt
- Inside rear view convex-type mirror (right side)
- Interior lights with fade away function
- Fully adjustable steering wheel column incl. lower tilt function with pedal
- Mechanical adjustable operational console with
- levers, operational buttons & armrest (RHS) • Power steering wheel with steer knob
- Electric horn • LED background light for buttons & switches
- Controls • Joystick for hydraulics - Elobau
- Auto rev-up accelerator at lifting / tilting / spreader
- Accelerator pedal (hanging)
- Double brake pedals (L + R / floor-mounted) • Gear lever with electronic hand brake (on/off)
- Automatic gear shifting (P1)
- Only first gear activated (P2) • Only second gear activated (P3)
- Safety override for hydraulic functions (by code)
- Multi-function lever LHS (parking brake and gear/ direction switch)
- Combined horn and blinker lever
- Warning hand brake (on/off) leaving seat
- Hour meter

#### Climate

- Electronically controlled heating/ventilation
- Fresh air and recirculation filter Single wiper/washer on front window
- Single wiper/washer on roof window
- Interval wiper functions on front, roof and rear windows

#### Kalmar DRU450S (S = Toplift)

**Options.** 

#### Chassis (container handling)

- DRU reachstackers container Toplift (S-range) Wheelbase 6,25 m
- DRU450-62S5 (Cap = 45-31-15 tons / 5-high 9'6")

- Anti-slip protection on fenders and tanks
- Mudguards in steel + rubber (front)
- Mudguards in rubber (rear)
- Noise insulation kit, for the truck, minus 1 dB(A) inside cabin and minus 2 dB(A) outside cabin

#### Steer Axle (rear)

• Steer cylinder spacer (less tyre wear)

#### Drive Axle (front)

- Axletech PRC-7545 planetary drive axle
- Kessler D-102 planetary drive axle

## Wheels (tyres & rims)

- Spare tyre, rim or complete wheel of various brands
- Special packages with 6-to-12 pcs, rim or wheel
- Tyre dimension 18.00×25" for standard models

- Auto engine & ignition stop, after 5 min idle
- Pre-Cleaner air intake incl. raised air intake
- DANA TE-30500 with 5+3 gears
- Cummins QSM-11-C330 (EU3 / Tier 3, 246 kW, 1674 Nm, 10.80 Lit)
- Volvo TAD-1150-VE
- (EU3 / Tier 3, 235 kW, 1581 Nm, 10.84 Lit) Volvo TAD-1170-VE
- (EU4 / Tier 4F, 235 kW, 1581 Nm, 10.84 Lit)
- Volvo TAD-1180-VE (EU5 / Tier ---, 235 kW, 1581 Nm, 10.84 Lit) Good performance optimised for 2.100 rpm

## **Load-Sensing Hydraulics**

- Hydraulic longlife fine filter with by-pass (3 my) Hydraulic oil cooling circuit for working hydraulics
- **Attachment**
- Automatic extension 20ft-40ft incl 30ft stop • Rotations stop spreader ±25 deg + override switch
- Extended twistlocks +250 mm (clearance 300mm) • Extended twistlocks +100 mm including
- rubber dampers for noise reduction
- Additional lifting eyes on spreader (2x or 4x)
- Long boom nose 1,0 / 1,6 / 2,0 m • Forward tilt +/- 2 degrees
- Soft landing function sensor in spreader • Cylinder extension 20-40ft (instead of chain drive)

## Electrical system 24V

- Extra sockets, 2x24V + 2x12V
- Extra sockets, 1x12V + USB 1x5V + 2x24V
- Extra sockets, USB 2x5V + 2x24V
- Electric air pressure horn
- Radio with CD/MP3/USB
- 1 NATO starting aid / contact • 2 extra working LED-lights on mudguard (forward)
- 4 extra working LED-lights on mudguard (20-40ft) 2 extra working LED-lights on cabin roof (forward)
- 2 extra working LED-lights on mid boom (20-40ft)
- 4 extra working LED-lights on front boom (20-40ft) • 2 extra working LED-lights on spreader (twistlocks)
- 2 extra reverse LED-lights on counter weight (rear) • 1 extra warning LED-beacon (on pole / RHS) • 2 extra warning LED-beacon (on C.W. / LHS+RHS)

Electronic System 24V (G-generation) • Vehicle Data Interface (VDI)

#### **Speed and Lift Settings**

- All settings can be changed and are programmable
- A standard default factory setting is supplied
- Boom lift height limit; standard + override button
- Boom load centre limit: standard + override button • Speed limit: standard (default 15 km/h)
- Speed limit: over defined height (10 km/h at 7.5 m).
- Speed limit; with load outside transport position • Speed warning; at 15 km/h

### **Essential Cabin**

- Structure • Hydraulic sliding cabin (stroke 2375 mm), anti-collision function to avoid container / trailer hitting cabin
- from the front Speed limitation relative to cabin position.
- Front window in laminated glass (AS1)
- Comfort • Seat alternatives (spring or air-cushion)
- · Seat with headrest
- Adjustable armrest (LHS)
- Extra trainer seat incl 2-p safety belt (LHS) • Bracket for terminal and monitor (RHS)
- Writing pad, A4 paper box and reading lamp (RHS) • Extra rear view convex-type mirror

#### (in cabin / left side) Controls

- Electronic joystick for hydraulics EGO (FNR incl) • Electronic joystick for hydraulics - Cobra
- Electronic Climate Control (ECC) incl AC
- Sun visor front window (black net)
- Sun visor roof window (black net) • Sun visor rear window (black net) • Two extra electric fans in cabin ceiling

## • Single wiper/washer on rear window

- Information system
- Operator menu • Container counter with reset function, trip computer

• Kalmar Insight licence (only in certified countries)

- and statistics Head-Up display for twistlock indication
- LED indicators for alignment & container(s) Fleet Management

(10 unique driver tags)

 Kalmar Insight Driver Monitor (RFID reader + 10) unique driver tags) Kalmar Insight extra monitoring tags

#### **Additional equipment**

- Reverse camera in rear C.W. (1x) including display 17 cm/7"
- Spreader twistlocks cameras LHS / RHS (2x),
- incl display 17 cm/7" Reverse Warning System (sensors, rev camera
- & display) Tyre Pressure Monitoring System (Bluetooth)
  Diesel powered cabin heater 5 kW
- Alcolock in cabin
- Tool kit
- Engine/hydraulic oil heater incl cab heater

- Filter kit 2000 hrs • Kalmar Load Measurement System

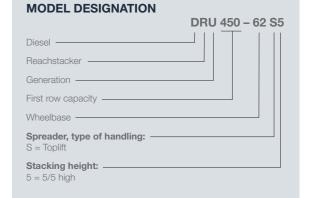
of bottom access steps

(SOLAS compliant) • Dual storage boxes on left and right hand side

- Other colour than standard on chassis (specify RAL no)
- Other colour than standard on cabin (specify RAL no)
- **Documentation and Decals**
- Extra documentation set (SPB, MB, IB) -
- Extra documentation set (SPB, MB, IB) digital Work shop manual - engine (printed or digital)
- Work shop manual drive axle (printed or digital)

## • Work shop manual - all (printed or digital)

Training



## Automatic Fire Suppression System • Fire extinguisher 5-6 kg, powder

- Cabin heater incl 220V outlet
- Engine heater incl cab heater
- Central greasing base machine
- Central greasing spreader

#### Colour

- Reinforced anti-corrosion protection (extra primer)
- Work shop manual transmission (printed or digital)

 Contact Kalmar Training Centre for training program

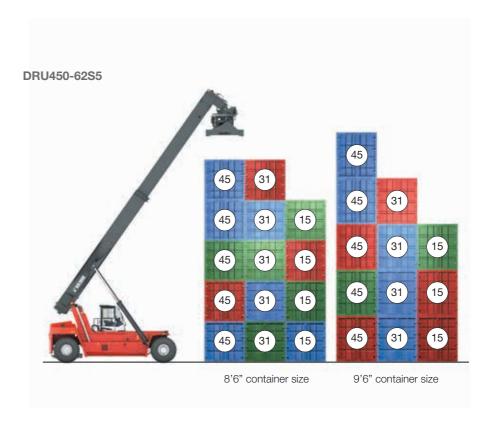
# **Technical information.**

1	1	Truck Model			DRU450
	_	Stacking model and height			DRU450-62S5
3	3	Type of handling			Container handling
	4	Lift capacity, row 1-2-3		tonnes	45 / 31 / 15
MANDAT	5	Load centre, from front face of tyres		(mm)	1965 / 3815 / 6315
A G	6	Stacking capacity in container row 1-2-3 of 8'6" / 9'6"			5/5 - 5/4 - 4/3
	7			(£4)	Mechanical Pile Slope (MPS) by gravity /
_ ′	7	Spreader type, extension stops, locking		(ft)	20ft, 30ft and 40ft / 4 Twistlocks
8	8	Wheelbase	L3	(mm)	6250
9	9	Service weight		(kgs)	69500
တ္ 10	0	Axle load front at load centre L4, unloaded – at rated load		(kgs)	34700 - 99900
WEIGHTS	1	Axle load rear at load centre L4, unloaded – at rated load		(kgs)	34800 - 14600
ш <b>&gt;</b> 1:	2	Axle load front of driving position according to EN 1459 - at rated load		(kgs)	88500
13	3	Axle load rear at driving position according to EN 1459 - at rated load		(kgs)	26000
1.	4	Tyres, type - thread			Diagonal / Pneumatic / Tubeless
_		Tyre dimensions, front & rear		(in)	18.00x25 - 18.00x25, PR40 E4
ω		Rim dimensions, front & rear		(in)	13.00x25 - 13.00x25
ii				(II I)	4* - 2
>		Number of wheels, front – rear (*driven)  Pressure		(MPa)	
			04 00		1.0
18	9	Track (c-c), front – rear	S1 - S2	(mm)	3030-2600
2	20	Boom type - cylinder design			Duplex 2-stage boom with 2 lift cylinders and 1 extension cylinder
2	21	Boom angle, min - max	alfa-beta	(deg)	0 - 60
2	22	Boom height, min - max	H3 - H5	(mm)	4600 - 18200
2	23	Boom reach stroke, max		(mm)	7000
2	24	Attachment/hook rotation, CW - CCW		(deg)	195 - 105
2	25	Sideshift ±	V1	(mm)	±800
20	26	Number of rotation motors and rotation brakes			2 + 2
SN 2	27	Spreader lifting hooks/eyes			4
OISNEWIG	28	Mechanical Pile slope stroke (MPS), side tilt in spreader		(deg)	±5
<u>⊒</u> 29	9	Lift height, min-max	H4	(mm)	1150 - 15100
3	80	Truck height / seat height	H6 - H8	(mm)	3650 / 2575
3	31	Overall truck length, without and with boom	H6 - H8	(mm)	8265 - 11450
3	32	Ground clearance, min.		(mm)	250
3	3	Width of truck	В	(mm)	4150
34	34	Width over attachment, min-max	B1 - B2	(mm)	6055 - 12185
3	35	Aisle width for 90° stacking, 20ft container - 40ft container	A1 - A2	(mm)	11400 - 13600
30	86	Turning radius, inner / outer 20ft / outer 40ft	R1-R2-R3	(mm)	8300 / 1200 / 9400
3	37	Distance front axle – front of attachment MPS	L2	(mm)	835
3	88	Type of engine			Diesel / 4-stroke / Turbo
		Drive axle			Axletech PRC-7545 or Kessler D-102, WDB, differential & hub reduction
	10	Travelling speed forward, unloaded – at rated load		(km/h)	26 - 22
		Travelling speed backward, unloaded – at rated load		(km/h)	18 - 16
_	2	Gradeability max., unloaded – at rated load		(%)	35 - 26
δ Δ		Gradeability at 2 km/h, unloaded – at rated load		(%)	30 - 17
چاچ	4	Lifting speed, unloaded – at 70% of rated load		(m/s)	0,36 - 0,22
AIE AI		Lowering speed, unloaded – at 75% of fated load		(m/s)	0,45 - 0,50
	6	Starting battery, voltage – capacity		(V - Ah)	2×12 - 135-145
		Steering system, type – maneuvering		(- , 41)	Servo assisted - Steering wheel
	8	Service brake system, type – affected wheels			Wet disc brakes - Drive wheel
	19	Parking brake system, type – affected wheels			Spring brake - Drive wheel
_					
50		Noise level EN12053 - equivalent inside cabin LpAZ			75 - 77 (optional 74 - 76)
ű		Noise level EN12053 - equivalent outside cabin LwAZ			110 - 113 (optional 108 - 111)
_		Tank volumes, diesel - AdBlue - oil		(dm3)	550 / 35 / 740 (600+140)
5	3	Overload protection system			Electronic

# **Drivelines.**

Truck Model		DRU450						
Engine emission approvals		EU3 / Tier 3	EU3 / Tier 3	EU4 / Tier 4F	EU5			
Engine emission brand/series		Cummins	Volvo	Volvo	Volvo			
Engine model		QSM-11-C330	TAD-1150-VE	TAD-1170-VE	TAD-1180-VE			
Engine after treatment type		No SCR / no AdBlue	No SCR / no AdBlue	SCR / AdBlue	SCR / AdBlue			
		No particle filter	No particle filter	No particle filter	With particle filter			
Engine design / cylinders		6-inline / common rail	6-inline / common rail	6-inline / common rail	6-inline / common rail			
Engine displacement	(dm3)	10.800	10.840	10.840	10.840			
Max power @ engine speed	(kW)	246 @ 2000	235 @ 1450 - 2000	235 @ 1450 - 2000	235 @ 1450 - 2000			
Max torque @ engine speed	(Nm)	1674 @ 1100 - 1400	1581 @ 950 - 1450	1581 @ 950 - 1450	1581 @ 950 - 1450			
Drawbar pull, max	(kN)	300	300	300	300			
Fuel consumption - average diesel	(l/h)	14 - 18						
Fuel consumption - average AdBlue	%	-	-	1 - 5	1 - 5			
Transmission model (gears FWD + RVS)		Dana TE-30500 (5 gears forward + 3 gears reverse)						
Transmission gear shift type		Automatic powershift						
Transmission clutch type		Torque converter						
Drive axle brand / series		Axletech PRC-7545 (WDB) or Kessler D-102 (WDB)						
Service brake / cooling		Wet Disc Brakes with oil cooling						
Alternator, power	(V/A)	AC, 2800 (28 x 100)	AC, 3080 (28 x 110)	AC, 3080 (28 x 110)	AC, 3080 (28 x 110)			

# Lifting capacity - container handling.





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