EMPTY CONTAINER HANDLER 8-10 TONNES

TECHNICAL INFORMATION DCE80-100

Dedicated for empty container handling

To maximize the utalisation of ground space empty containers need to be stacked high and close together. Empty container handling means stacking up to 9 high in high pace. The containers must be moved and stacked fast, safe and efficient. Kalmar has developed a series of machines especially adapted to the principles of empty container handling.

Beside from driving fast and safe, stacking is a time-consuming job that demands preciseness. This places heavy demands on the stability of the machine, mast and spreader together with user friendliness during handling. Another key factor is to create an unobstructed field of visibility. This let the operator focus on the task instead of managing the machine.

Kalmar has developed empty container handling concepts for both single- and double stacking with a lifting capacity of 8-10 tonnes. The decision on which concept is most suitable is pending on individual operational demands.

Single stacking
The single handling concept starts at 5 high stacking and up to 8 high. Characteristic for the machines dedicated for single stacking is flexibility, stability and high lifting speeds. This attachment is widely used on many Kalmar machines over the globe.

Limitations in ground space and high demands on selectivity are the key factor when considering on single stacking equipment.

Double stacking
Double stacking of containers is an important step in increasing the productivity in the empty container handling business. Double stacking can be a very demanding application for the Empty Container Handler. The DCE100 model from Kalmar fulfil these high requirements of stability and strength with margin.

Stacking two containers simultaneously is most of all a question of extreme demands of operational efficiency before demands on selectivity.

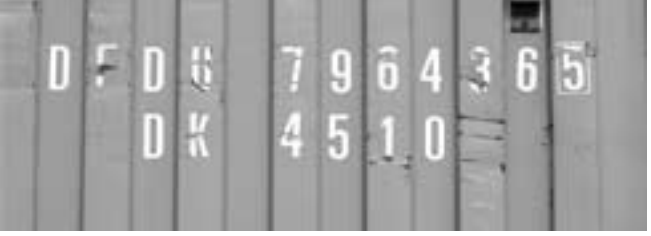
Model designation

eg. DCE80-45E8

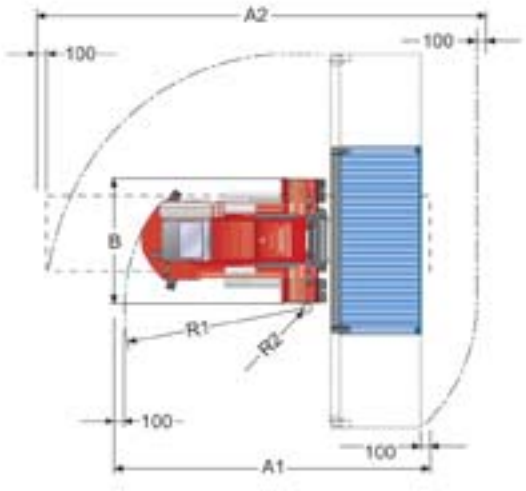
- **Diesel engine**
- **Counterweight truck**
- **Generation**
- **Lifting capacity, in decitonnes**
- **Wheelbase, in decimetres**
- **Empty containers**
- **No. of containers when stacking**

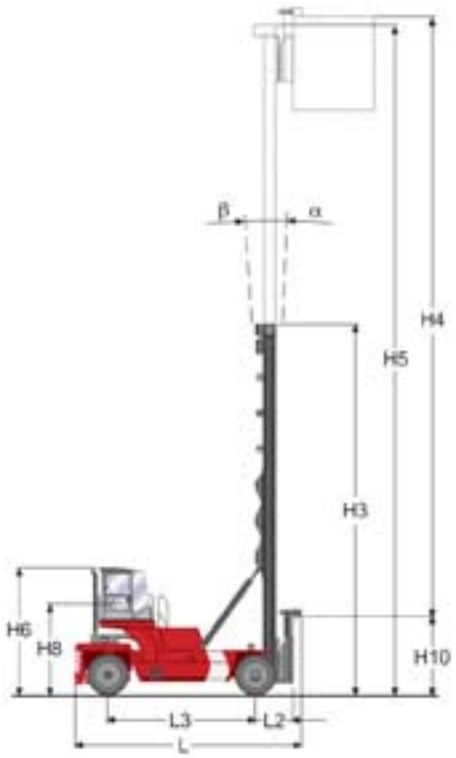
Single stacking 8 high

Double stacking 8+1 high



Capacity and dimensions





Capacity and dimensions					DCE80-45E5/E6/E7/E8	DCE90-45E5/E6/E7/E8	DCE100-45E7/E8
Lifting	Lift capacity	Rated		kg	8000	9000	10000
		Load centre	L4	mm	1220	1220	1220
		Number of containers, 8'6'' - 9'6''			**E5:** 5-5 **E6:** 6-5 **E7:** 7-6 **E8:** 8-7	**E5:** 5-5 **E6:** 6-5 **E7:** 7-6 **E8:** 8-7	**E7:** 7-6 **E8:** 8-7
Dimensions	Truck	Truck length	L	mm	6900	6900	6900
		Truck width	B	mm	4000	4000	4500
		Truck height	H6	mm	3940	4000	4600
		Seat height	H8	mm	2800	2900	3500
		Distance between centre of front axle - front edge of attachment	L2	mm	1150	1150	1140 - 1200
		Wheelbase	L3	mm	4550	4550	4550
		Track (c-c) front - rear	S	mm	3270 - 2250	3270 - 2250	3750 - 2250
		Turning radius, outer	R1	mm	6000	6300	6300
		Turning radius, inner	R2	mm	200	200	200
		Ground clearance, min.		mm	250	300	300
	Min. aisle width for 90° stacking with 20' container - 40' container		A1-A2	mm	10000 - 14000	10000 - 14000	10000 - 14000
	Standard duplex mast	Lifting height	H4	mm	13000	13000	16500
		Mast height, min.	H3	mm	8540	8600	10350
		Mast height, max.	H5	mm	15040	16350	19500
		Mast tilting, forwards - backwards	α - ß	°	3 - 3	3 - 3	3 - 3
	Attachment	Height under twistlock, min.	H10	mm	2180	2240	2300
		Sideshift ±	V1	mm	600	600	600
Weight	Service weight			kg	**E5:** 33850 **E6:** 34350 **E7:** 35500 **E8:** 37050	**E5:** 34700 **E6:** 35200 **E7:** 36700 **E8:** 38200	**E7:** 40600 **E8:** 41900
	Axle load front	Unloaded		kg	**E5:** 21300 **E6:** 21800 **E7:** 22950 **E8:** 24500	**E5:** 21500 **E6:** 22000 **E7:** 23500 **E8:** 25000	**E7:** 21600 **E8:** 27400
		At rated load		kg	**E5:** 33450 **E6:** 33950 **E7:** 35100 **E8:** 36650	**E5:** 35200 **E6:** 35700 **E7:** 37200 **E8:** 38700	**E7:** 41400 **E8:** 42700
	Axle load back	Unloaded		kg	12550	13200	14500
		At rated load		kg	8400	8500	9200
Misc.	Wheels/tyres	Type, front-rear			Pneumatic	Pneumatic	Pneumatic
		Dimensions, front-rear		inch	12.00x24 - 12.00x24	14.00x24 - 14.00x24	14.00x24 - 14.00x24
		Number of wheels, front-rear (*driven)			4*-2	4*-2	4*-2
		Pressure		MPa	1,0	1,0	1,0
	Hydraulic pressure	Max.		MPa	19,0	20,0	22,5
	Hydraulic fluid volume			l	320	320	320
	Fuel volume			l	380	380	380
	Starting battery	Voltage - capacity		V-Ah	2x12-140	2x12-140	2x12-140

Description

Chassis
The machine chassis create the base for its external dimensions, stability and manoeuvre characteristics.

The chassis is built of fully welded steel profiles which gives a rigid construction with strong mounting points for the drive axle and lift equipment. Stress concentrations have been eliminated for optimum tensile strength.

The chassis is flexible and is used for all the different models and driveline combinations. The space at the rear of the chassis is used for counterweights. The number of counterweights depends on special operating requirements.

The chassis has a low profile for good visibility. The tanks are separately constructed and bolted to the chassis in a position that also contributes to good visibility.

Cabin substructures are also bolted to the chassis. The wide cabin substructure jointing provides good accessibility and therefore easy service and maintenance operations. The improved instep is broader and provides a safer grip.

The cab is located at the very rear of the machine for best visibility. The DCE series comes in two different versions regarding the cabin position. Depending on market requirements the machines can be delivered with standard cabin height position or as an elevated version. This decision is pending individual operational requirements.

Lift Masts
All masts are constructed according to the free visibility principle. The robust mast has become even more robust. When we now introduce the 10 tonne machine all masts are improved to meet the demands that comes with the higher capacity. The mast profiles are made of high tensile steel, designed for minimal obstruction of the field of vision and long service life. All mast wheels for the bearing of longitudinal stress are fitted with high quality roller bearings. Lateral stresses are borne by plastic sliding plates. Four duplex masts are available.

Duplex mast

Carriages
Three different integrated carriages are available pending on if the spreader is landing from above (twistlocks) or from the front side of the container (hooks).

All carriages have support wheels to bear longitudinal stresses and sliding plates for lateral stresses.

Single
The fixed carriage for attachment with twist-locks has a mechanical levelling.

Carriage for single stacking

Double
The hook attachment has mechanical levelling as standard and hydraulic as option.

Carriage for double stacking

Attachment
The sidelift attachment has been designed for easy, safe and rapid handling, low weight and ease of maintenance. The primary function of the attachment is to firmly attach the container during lifting. The attachment is integrated with the carriage. Two different models of attachment are available; with twistlocks or with hooks for container connections.

Both the hook and twistlock attachments have a hydraulic cylinder between the attachment and the carriage that allows +-600 mm side-shift.

Attachment for single stacking with twistlocks

Attachment for double stacking with hooks

Single stacking with twistlocks
Lamp panels, both in the cabin and on the attachment, displays alignment, locked and released container respectively. An electrical safety system prevents the locking and release of the container if the attachment is not correctly positioned. The system also prevent lifting if the container is not either completely locked or released container respectively.

Double stacking with hooks
The indication system allows the driver to supervise the loading and unloading. Two indication lamp panels are mounted, one in the cabin and one on the attachment.

The indication system displays locking/unlocking of flaps and alignment upper and/or lower container.

The twistlock attachment
This lifting is done by two twistlocks which rotate, thereby securely gripping the closest two container corner fittings. The attachment corner pieces are telescopic and suspended from the main beam by means of springs, which enables 195 mm levelling to both sides for the connection to leaning containers. The design is well proven and is in operation on many machines all over the world.

The hook attachment
The hook connections are used, for example, for simultaneous lifting of two containers. The newly developed attachment has an increased capacity up to 10 tonnes. Great improvements have been done on visibility. The new design provides an open view in the critical area around the container corner fittings. The new spreader consists of fewer components compared to the former hook type spreader offering improved reliability. The spreader is available with or without hydraulic levelling carriages. The hook attachment allows three degrees levelling.

Hydraulics on DCE100 attachment
The spreader functions are fed with a constant hydraulic oil pressure, which means there is no pumping of hydraulic oil when the function are not in use. One valve serves all the hydraulic functions in the attachment, this means fewer hoses over the mast and thereby less sources of error. The valve ensures that each hydraulic function is fed the exact amount of oil needed to optimise the speed of the functions movements.

Performance

Performance is the result of how well the machine's functions work together.

The efficacy of the lifting equipment is determined by a combination of lifting speed, capacity, visibility and user-friendliness. Lifting places heavy demands on the engine and working hydraulics, but lifting is only part of the operating cycle. Before the machine is in position to load or unload, the demands are instead on precise control with tight turning radius, effective brakes and high pulling power. And of course, all the functions must still perform optimally even after heavy use.

Transmission

All trucks in the series are equipped with Spicer off Highways well proven 32000 hydrodynamic transmission systems (3+3).

The transmission has integrated gearbox and torque converter, for smooth, quick acceleration with a minimum of "clutch-slip". Gear changing is electrically achieved via solenoid valves, with three reverse and three forward gears, controlled by means of an easily operated multifunction lever.

Drive axle

The Kessler drive axle (width = 4000mm) is of a robust design to be able to cope with tough working environments in ports and terminals. The axle has reduction in two stages - differential and hub reduction, which ensures a minimum of strain on the transmission system. The drive axle is fitted with hydraulic braking system.

A wider axle with a extremely robust design with a track of 4500 mm has been developed to meet the heavy-duty demands that is placed during operation with the new DCE100 machine. It is also optional on the DCE80 and 90 machines.

Kessler D81 driveaxle

Performance					Volvo - TAD720VE			Volvo - TWD731VE			Cummins QSB5.9		
					DCE80-45	DCE90-45	DCE100-45	DCE80-45	DCE90-45	DCE100-45	DCE80-45	DCE90-45	DCE100-45
Performance	Lifting speed	Unloaded		m/s	0,60	0,60	0,60	0,60	0,60	0,60	0,60	0,60	0,60
		At rated load		m/s	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55
	Lowering speed	Unloaded		m/s	0,60	0,60	0,60	0,60	0,60	0,60	0,60	0,60	0,60
		At rated load		m/s	0,60	0,60	0,60	0,60	0,60	0,60	0,60	0,60	0,60
	Travelling speed, f/r	Unloaded		km/h	27/27	28/28	28/28	27/27	27/27	27/27	27/27	28/28	28/28
		At rated load		km/h	25/25	26/26	26/26	25/25	25/25	25/25	25/25	27/27	27/27
	Gradeability	Max	unloaded	%	36	31	31	28	28	28	36	31	31
			at rated load	%	29	24	23	25	22	22	29	25	25
		At 2 km/h	unloaded	%	31	27	27	24	24	24	31	27	27
			at rated load	%	25	21	20	22	19	19	25	21	21
	Drawbar pull	Max		kN	127	114	114	105	105	105	127	115	115

Volvo TAD720VE engine with
Spicer off Highways 13.7HR 32000 transmission

Engine

As standard, the DCE truck is equipped with Volvo's TAD 720VE diesel engine. The turbocharged straight six cylinder engine is equipped with intercooler. The engine is adapted to the special working requirements of empty container handling, with high power and torque levels at low engine speeds.

The engine has low exhaust emission levels and complies with today's stringent legal environmental demands according to step II. A Cummins engine can be fitted as option. Low fuel consumption and low noise and vibration levels characterise all engine alternatives.

Parking Brake System

The parking brake system consists of a dry disc brake on the in going shaft of the drive axle. The disc brake is applied by means of a powerful spring in the parking brake cylinder and is released by means of hydraulic pressure from the parking brake valve. The brake is applied by a press button.

Service Brake System

The service brake system is of the Wet Disc Brake type with oil cooled discs that are alternately fixed to and rotating with the hub. When the brakes are applied, the discs are pressed together by hydraulic pressure from the brake pedal, which provides effective braking. The system is virtually maintenance free and can cope with heavy loads over an extended period of time, with no fade and without the need for brake adjustments.

The cooling circuit contains a hydraulic fluid cooler with electrically powered fan.

Steering System

The steering system is completely hydraulic and is fed from a hydraulic pump via a priority valve. When the steering wheel is turned, the steering valve transmits a load signal to the priority valve, which ensures that the steering system always has sufficient hydraulic pressure.

The steering axle is an robust construction with double-acting cylinder.

The pendulum suspension of the axle, over powerful spherical rubber bushings, has a long operative life span and is totally maintenance free.

The minimal number of parts ensures operational reliability, a minimum of service points and easy maintenance. The steering geometry allows a tight turning circle.

Drive train				Standard environment driveline	Optional driveline	Cummins option driveline
Drive train	Engine	Manufacturer - type designation		Volvo - TAD720VE	Volvo - TWD731VE	Cummins QSB5.9
		Fuel - type of engine		Diesel - 4 stroke	Diesel - 4 stroke	Diesel - 4 stroke
		Rating ISO 3046 - at revs	kW-r/min	174 - 2300	167 - 2200	160 - 2200
		Peak torque ISO 3046 - at revs	Nm-r/min	854 - 1400	893 - 1300-1400	938 - 1400
		Number of cylinders - compression	cm^3	6-18,4:1	6-17,7:1	6-16.3:1
		Fuel consumption, normal driving	l/h	12 - 14	12 - 14	13 - 15
	Transmission	Manufacturer - type designation		Spicer off Highways 13,7HR32000	Spicer off Highways 13,7HR32000	Spicer off highways 13,7HR32000
		Clutch, type		Torque converter	Torque converter	Torque converter
		Gearbox, type		Powershift	Powershift	Powershift
		Numbers of gears, forward - reverse		3 - 3	3 - 3	3 - 3
	Alternator	Type - power	W	AC - 2240	AC - 2240	AC - 2240
	Driving axle	Type		Differential and hub reduction	Differential and hub reduction	Differential and hub reduction

Electrical and hydraulical systems

Electrical system
The electrical system is logically structured. The 24 V system is supplied by two 12 Volt batteries connected in series charged by an alternator, with related electronics for rectification and current stabilisation. The system provides high power levels even at low engine revs.

The electrical fuses, relays and connectors are located in an easily accessable position within a central electrical unit inside the cabin. The unit is located behind the operator seat.

Optional: ECS
The empty container handler can be equipped with ECS, a system for optimum operational security and overall economy.

The system consists of a number of modules that can be combined in different ways, depending on the nature of the operations.

For example the following functions are available:
- automatic gear changing (load sensing system)
- lever steering
- mini steering
- montitoring
- electrohydraulic servo (electrical hydraulic servo is standard on the DCE100)

Levers for hydraulic functions: Lifting, tilt, side shift, 20-40 feet extension, twistlocks/flaps.

Hydraulic system
The hydraulic system includes the following sub-systems:
- Working hydraulics.
- Service brake system with parking- and cooling circuit
- Parking brake circuit
- Hydraulic servo (standard)
- Steering system

The hydraulic system is built around two gear wheel type pumps. The pumps are driven from a power outlet on the transmission. A valve block enables easy installation with a minimum number of hydraulic lines/hoses.

The accumulator is charged from the valve block and in turn feed the service- and parking brake system. As a safety measure, the accumulator ensures efficient braking pressure to be able to brake several times, if the engine temporarily should stop.

A priority valve, which is controlled by a load-sensing signal from the control valve, ensures there is always pressure for the steering system. At full extension of the lift functions, both pumps work in tandem for maximum lifting speed.

Part of the excess flow from the pumps is directed to the brake circuit in order to dissipate the built up of heat, before returning to the hydraulic tank.

Following functions are available as optional extras:
- electro-servo controls (DCE100, electrical hydraulic servo is standard on the DCE100)
- piston type accumulator
- additional hydraulic functions
- electronic joystick

Operator environment

The Spirit Delta cab provides the operator with an efficient and safe place of work. The design of the cab is the result of a comprehensive analysis of operators' working conditions providing optimum visibility with large glass areas and no forward corner posts to inhibit the field of vision. The instrument panel is gently rounded and ergonomically designed with an uninhibited clear view of all essential information. Access to the cab is convenient and safe with steps, on the left hand side, and ergonomically designed hand rail.

Noise and vibrations levels are low thanks to the insulated mounting to the chassis. The operator's seat and hydraulic controls are all individually adjustable for optimum working position. The steering wheel and related panel angle is adjustable. Two easily operated, ergonomically positioned multi-function levers are provided for gear changing, windscreen wipers, washers and horn.

A heating/ventilation unit ensures a comfortable cab temperature. An easily replaced fresh air filter cleans the incoming air, the unit slides out to give easy access for service. As standard, the equipment includes a powerful 3-speed fan for cooling, heating, defrosting and recirculation. Air conditioning can be fitted as optional extra.

Levers for hydraulic functions: Lifting, tilt, side shift, 20-40 feet extension, twistlocks/flaps.

Instrumentation

The instrument panel has logically grouped units, all within easy reach. Standard instrumentation includes warning lamps for battery charging, low engine and gearbox lubrication oil pressure, low brake pressure, high coolant temperature, high gearbox oil temperature and applied parking brake. In addition, gauges display values for gearbox oil pressure, engine coolant temperature, fuel quantity and operating time.

Trucks fitted with Electronic Control System (ECS) (option) monitoring are not equipped with warning lamps or gauges. These functions are handled by the ECS, which has a single warning lamp and full text display showing current values and any faults that occur.

Service Access

Routine daily service checks contribute to a safe work place and reduce the risk of breakdowns.

Daily service checks are made easier thanks to well thought out and grouped service points. The operator can reach all service points without having to climb up onto the truck. The cabin position facilitates easy access to the engine compartment. Hydraulic components can be reached by removing the top covers. Together his makes all vital components readily accessible for service. Thanks to great improvements there are now even fewer lubrication points.

Reliability

The DCE series is one of the most widely spread machines manufactured by Kalmar. This has created a great field experience of this machine type. The machine sub-systems all consist of well tested and field proven components.

Standard equipment, base machine

All Kalmar trucks are CE marked and constructed to and comply with the following norms:

- EN 1551
- EN12053 (Sound)
- EN 12895 (EMC test, Europe)
- 97/68 EC Stage II, US EPA Tier II (Standard engines)
- ANSI B56.1 Compliance.
- EMC approved electrical system

Chassis

- Lifting eyes front
- Towing pin

Body

- Steps with anti-slip protection
- Rear view mirror on each side
- Engine hood with gas springs

Steering axle

- Kalmar design steer axle with double-acting steer cylinder
- Maintenance free rubber bushing
- Oscillation stops

Drive train

- Engine: Volvo TAD720VE
- Alternator 80A
- Transmission: Spicer Off-Highways 13,7HR32000
- Drive axle: Kessler D81
- Wet Disc Brakes
- Electrical parking brake
- Radiator and oil-cooler for engine and transmission
- Air-cleaner with interchangeable filter
- Large diesel tank 380 litres
- Diesel filler cap and breathing filter

Cabin

- Cabin internal height 1500 mm
- Standard position, backward, H6=3940mm
- Cabin without front corner posts (silicon sealed front windows)
- Windows of security glass, 5 mm
- Lexan roof window, 6 mm
- Lockable doors (key)
- Door stops with lock
- Sliding window on left side
- Wiper/washer front and rear window
- Interval wiper front window
- Fixed drivers seat BEGE
- Armrest right hand side
- Adjustable lever console
- Electrical assisted levers (only hook attachment).
- Hydraulic assisted levers (only twistlock attachment)
- Steering wheel knob
- Ignition key with electric engine stop
- Multi-lever left hand side
  - Travel direction selector (forward/neutral/beckward)
  - Electrical gear shifting “powershift”
- Multi-lever right hand side
  - Horn
  - Direction indicator
  - Interval wiper on front window
  - Washer on front, rear and roof window
  - Low beam/high beam on head light
- Mechanical foot accelerator
- Dual brake pedals with inching function
- Button for electronic hand brake
- Heating incl. Defroster system
- Warning buzzer for not activated parking brake leaving seat
- Container panel with safety locking device (only twistlock attachment)
- Instep handle
- Inside rear view mirror
- Interior light with fade away
- Indication panel for driver support (only hook attachment)

Heating/ventilation

- Control knob with three step setting of fan speed
- Control knob for setting the air flow (floor, cab and mixed)
- Separate air-flow blowers, for setting of the required air flow
- Powerful defroster for front/side/door window
- Control knob for stepless setting of cooling/heating
- Re-circulation function (20%-80%) with electrical switch
- Aluminium fresh air filter, washable and interchangable

Instrument

- Fuel gauge
- Hour meter
- Engine temperature (coolant water)
- Transmission pressure

Indication lights

- Summer at warning lamps
- Engine oil pressure
- Engine oil temperature
- Engine coolant level
- Charging
- Brake pressure
- Transmission oil temperature
- Transmission oil pressure
- Parking brake
- Headlights
- Direction indicator
- Safety locking device disconnected (only twistlock attachment)
- Hydraulic oil temperature
- Indication lamps
  - Indication locked twistlock/flaps
  - Indication alignment
  - Indication opened twistlock/flaps

Warning lamps

- Charging
- Direction indicator/warning lights/high beam/disconnection of safety device (only twistlock attachment)
- Parking brake
- Low brake pressure
- Low oil pressure - engine
- Low water level – engine
- Preheating – engine
- High temperature – engine
- Low oil pressure – transmission
- High temperature - transmission

Wheels

- Pneumatic tyre
- Tyres: 12.00 x 24 (DCE80)
  14.00 x 24 (DCE90-100)

Mast
- Duplex standard, full free visibility (2-stage with 2 cylinders)
- Tilt angles standard; forward 3 deg. and backward 3 deg.

Carriage
- Carriage for twistlock attachment with mechanical levelling
- Carriage for hooks with mechanical levelling

Attachment
- 8-9 tonnes capacity for 20-40 ft ISO containers, hydraulic extension (only twistlock attachment)
- 10 tonnes capacity for 20-40 ft ISO containers, hydraulic extension (hooks)
- Hydraulic sideshift ± 600 mm, 1 cylinder
- Mechanical passive levelling, ± 195 mm (with spring power) (only twistlock attachment)
- Safety locking with twistlocks, alignment pins and sensors (only twistlock attachment
- Fixed ISO twistlocks
- Locking, alignment pins and sensors (only hook attachment)
- Mechanical levelling 2,5 degrees (only hook attachment)

Hydraulics
- Pumps, 2 units
- Distributed hydraulics on spreader
- Hydraulic electric servo function for lifting levers
- Hydraulic main valve for lifting equipment
- Servo assisted steering (Orbitrol)
- Hydraulic assisted/servo function for lifting levers
- Hydraulic oil filters, high pressure 2 pcs
- Hydraulic accumulator for the brake system 2 pcs
- Large hydraulic tank (320 L), external hydraulic oil level gauge and breathing filter
- Electrical fan for hydraulic oil cooling

Electrics
- Electrical system 24V
- Batteries 12V/140Ah 2 pcs
- Main power switch
- Control central mounted in the rear cab wall
- 2 head lights and 2 position lights on front fenders
- 2 working lights on mast
- 2 working lights on carriage
- 2 rear lights on fenders, activated in reverse
- 2 rear lights and 2 rear position lights
- Blinkers front and rear
- Rotating beacon
- Brake lights
- Cabin lightning

Colour
- Chassis, counter weight: Red RAL 3000
- Cabin: Grey RAL 9007
- Lifting equipment: Black RAL 7021

Documentation and signs
- Instruction manual 1 pce
- Technical handbook 1 pce
- Spare parts catalogue 1 pce
- Complete set of signs according to the instruction manual:
  - Forklift truck data sign with serial no. model, capacity etc.
  - Warning and information signs
  - Load diagram

Common options

See price list for more options
- Elevated cabin 600 mm
- Cabin Globetrotter with internal height 1700 mm
- ECS monitoring system
  - Automatic gear shift
  - Joystick control/mini-steering/ lever steering
  - Electrical/hydraulic servo control
  - Load indicator
  - Electronic scale
- Triplex mast
- Central greasing system
- Automatic stop of engine at high temperature, low pressure etc. (not in combination with ECS)
- Connection at 220 V
  - Engine heater
  - Cab heater
  - Battery charger
- Reverse alarm
- Tyre Michelin XZM
- Single stacking carriage with hydraulic levelling
- Double stacking carrigage with hydraulic levelling
- Reading lamp
- Container lights on cabin roof
- Engine oil pressure gauge
- Transmission oil temperature gauge
- Hydraulic oil temperature gauge
- Air conditioning
- Interval wiper rear and roof pane
- Electric heat in driver seat
- Air cushioned seat
- Radio with CD-player

Contact information:

Kalmar global partner

Local presence, globally
Kalmar is a global supplier of heavy materials handling equipment and services for ports, terminals, industry and intermodal handling.

Local presence means that we can support our customers throughout the product's life cycle, wherever they are.

Our products are manufactured in Sweden, Finland, the USA and the Netherland

Other empty container models

Empty Container Handler ContChamp

921524-0821/04-03 Råd & Resultat Kommunikation AB
We reserve the right to change the design and technical data without prior notice.

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