

# Kalmar DRF100 Reachstackers 10 tonnes





## Powerful intermodal handling

Container handling with a reachstacker is one of the most flexible handling solutions whether you operate empty or loaded containers.

A reachstacker can handle containers quickly and efficiently in narrow spaces, while still ensuring the driver has optimum visibility. The extensive freedom allowed by the lifting equipment, boom and attachment, and its rotation possibilities, gives that the driver can improve

the work efficiency of the unit, by not needing to approach the container from a 90 degrees position.

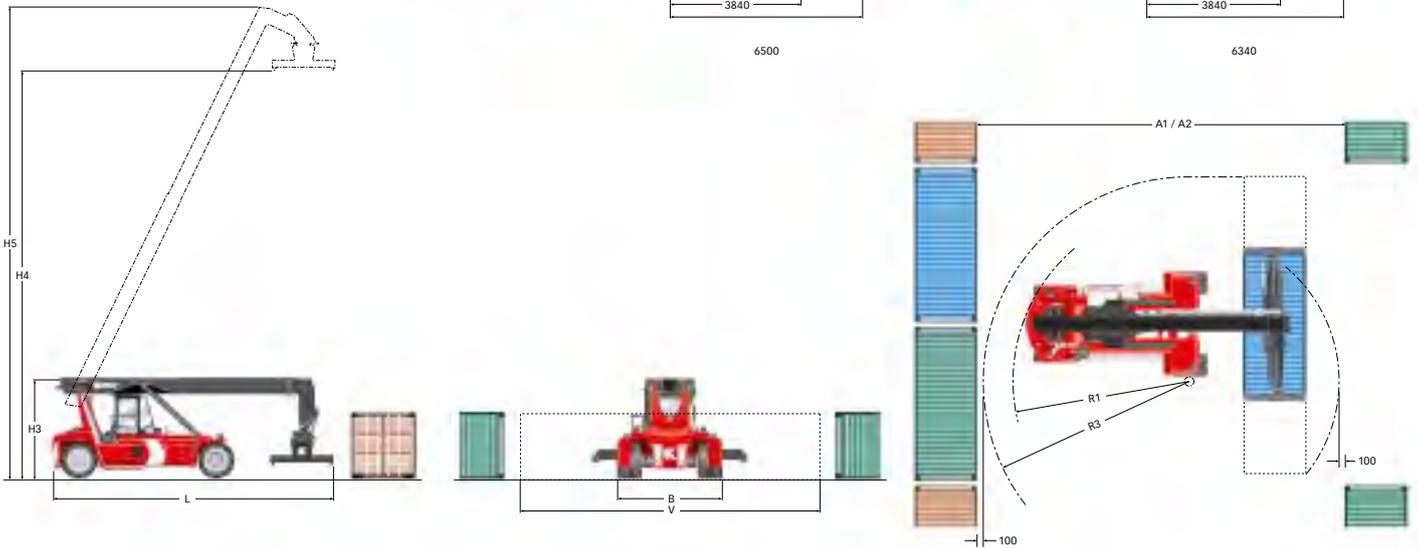
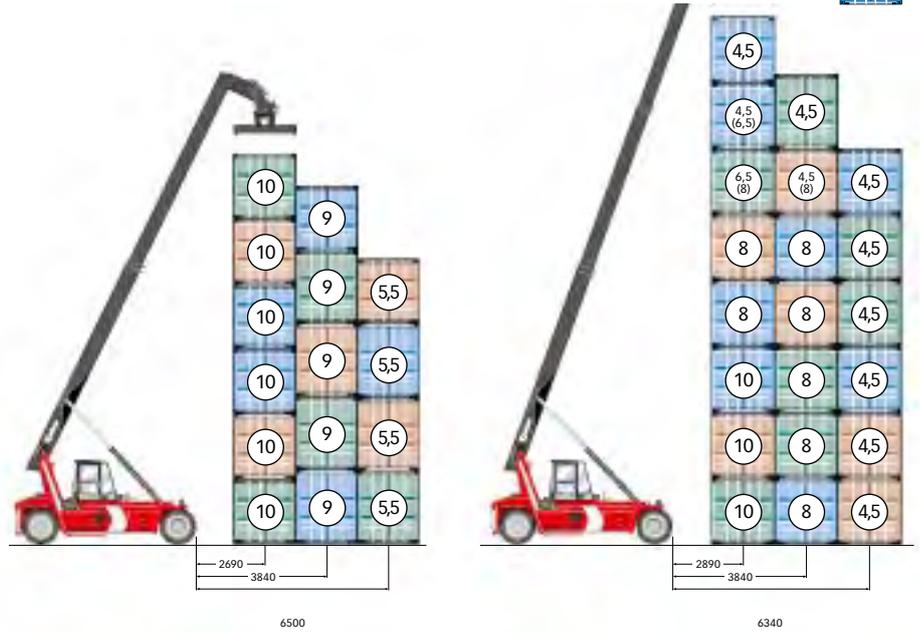
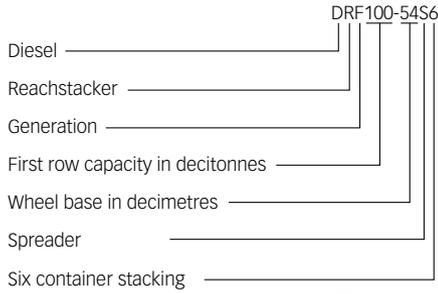
The Kalmar DRF100 is based on the same technology as our other F-generation machines. Combined with superior service and maintenance support it enables us to offer the same operating advantages in the empty line of reachstackers as the fully laden range.

The two models offered in the empty range have been extensively tested and has confirmed all our expectations.

# Kalmar DRF100 Reachstacker



## Model designation



Capacity	Aisle width (mm)		Turning radius (mm)		B	V	L	Lifting height			Clearance	Wheels	Service weight (kg)
	A1 - 20 ft	A2 - 40 ft	R1 - 20 ft	R3 - 40 ft				H3	H4	H5			
DRF100-54S6	11050	14100	7000	8550	4150	6055-12185	11050	3900	16200	18700	250	14.00x24 - 14.00x24, PR24, E3	39000
DRF100-54S8	11050	14100	7000	8550	4150	6055-12185	11050	3950	21150	24150	250	14.00x24 - 14.00x24, PR24, E3	40300

## Drive train

### Standard

Engine	Manufacturer, type designation	Volvo TAD762VE
	Fuel - type of engine	Diesel - 4-stroke
	Rating ISO 3046 - at revs (kW - rpm)	185 - 2200
	Peak torque ISO 3046 - at revs (Nm - rpm)	1180 - 1400
	Number of cylinders - displacement (cm <sup>3</sup> )	6 - 17.3:1
	Fuel consumption, normal driving (l/h)	15
	AdBlue consumption, normal driving (l/h)	0,5
Gearbox	Manufacturer, type designation	Dana - TE17000
	Clutch, type	Torque converter
	Gearbox, type	Powershift
	Number of gears, forward - reverse	4 - 4
Alternator	Type - power (W)	AC - 2400
Starting battery	Voltage - capacity (V - Ah)	2x12 - 140
Driving axle	Type	Kessler - Differential and hub reduction
Noise level, inside	LpAZ according to EN1459, Spirit Delta (dB(A))	70

Performance	Lifting speed (m/s)		Lowering speed (m/s)		Driving speed (km/h)		Gradeability (%)			Draw pull (kN)	
	unloaded	at 70% of rated load	unloaded	at rated load	unloaded (F/R)	at rated load (F/R)	at 2 km/h, unloaded	at 2 km/h, at rated load	max, unloaded	max	
DRF100-54S6	0,42	0,38	0,4	0,4	29/29	27/27	27	21	33	130	
DRF100-54S8	0,41	0,37	0,4	0,4	29/29	27/27	25	20	31	130	

# Standard equipment

## Norms and law regulations

- According to directive EN 1459
- According to directive ASME B56.1a

## Chassis

- Safe angled entrance
- Lifting eyes front/rear
- Towing pin (incasted)

## Cabin

### Structure

- Step for roof access
- Instep handle
- Sliding window on both sides
- Door with air damper and lock left side
- Door with chain right side (only emergency exit)

### Comfort

- Operators seat Be-Ge 9200 M incl. safety belt (lap type)
- Armrest right hand side
- Inside rear view mirror right side
- Interior light with fade away
- 24 V outlet
- Fixed steering column
- Steering wheel knob
- Horn
- Background button light
- Adjustable control console

### Controls

- Joystick for boom and attachment functions
- Automatic gas at lifting/extension
- Double brake pedal incl. Transmission Disconnection (declutch)
- Button for electronic hand brake
- Electric accelerator pedal (hanging)
- Automatic gear shifting
- Only first gear activated
- Only second gear activated
- Override button for hydraulic functions

## Climate

- ECC, electronic climate control
- Fresh air and recirculation filter
- Wipers/washers on front, rear and roof pane
- Interval wipers on front, rear and roof pane
- Tinted windows

## Information systems

- Graphic display with automatic fault analyses
- Operator menu:
  - System voltage
  - Actual gear
  - Engine rpm
  - Travelling speed
  - Fuel bar
  - Hydraulic oil temperature
  - Transmission oil temperature
  - Engine oil pressure
  - Engine coolant temperature
  - Engine oil level (not on cummins)
  - Load distance
  - Load
  - Boom extension
  - Boom angle
  - Clock
- Pop-up menu:
  - Overload warning
  - Overload warning steering axle
  - Alignment indicator spreader
  - Twistlock indicator
- Warning lights:
  - Charging battery
  - Low brake pressure
  - Failure indicator
  - Safety system disconnected
  - High engine coolant temperature
  - Low engine coolant level (not on cummins)
  - Low engine oil pressure
  - Preheating engine
  - Transmission oil temperature
  - Low fuel level
  - Hydraulic oil temperature

- Indicator lamps:
  - High beam
  - Direction indicator
  - Parking brake
  - Indication locked twistlock
  - Indication alignment
  - Indication opened twistlock
- Warning buzzer for not activated hand brake, leaving seat
- Hour meter, analog

## Steering system

- Rear axle: Kalmar
- Double acting steering cylinder

## Drive train

- Engine protection system
- Transmission protection system
- Preheating engine
- Front axle: Kessler

## Hydraulics

- Return filters hydr. Oil (10 micron)
- Pressure filter brakes (10 micron)
- Load sensing pumps (3 pcs)
- Vane pumps (2 pcs for brakes and cooling)
- Visual level glass hydraulic tank/brake tank
- Regeneration system (lift and extension boom)
- Environmental air filter hydraulic tank

## Body

- Steps with anti slip protection
- Rear view mirrors on each side

### **Electrical system**

- Electrical system 24 V
- Main power switch
- 2 working lights on attachment
- 2 working lights on boom
- 2 working lights on front edge cabin
- 2 rear lights on fenders activated in reverse
- 2 head lights on front fenders
- 2 position lights on each side
- Lights high/low beam front
- Tail lights, brake lights
- Blinkers front and rear
- Rotating beacon
- Flashing brake lights when reversing
- Acousting signal when reversing

### **Wheels**

- Tyres: 14.00×24
- Wheel nut protection

### **Lifting boom**

- Lifting boom std 6 × 8' 6" high (DRF100-54S6)
- Lifting boom std 8 × 8' 6" high (DRF100-54S8)

### **Colour**

- Cab: Grey RAL 7037
- Chassis: Red RAL 3000
- Lifting boom: Black RAL 7021

### **Documentation and decals**

- Load chart diagram in cabin
- Machine data plate chassi incl. load chart
- Warning stickers
- Information stickers
- Fuse diagram
- Instruction manual
- Maintenance manual
- Spare parts catalogue

### **Attachment**

- Top lift 20'-40' (cap. 10 tonnes)
  - Sideshift ±1000 mm
  - Mechanical levelling ±5°
  - Rotation +195°/-105°
  - Hook on corners for slings
- Floating ISO twistlocks
- Tilt lock (reduced driving speed)
- Electronic safety device incl flexible scale and synchronized lift

# Optional equipment

## Chassis

- DRF100-54S6
- DRF100-54S8

## Cabin

### Structure

- Tilting cabin
- Welded bars at the corners with ledge-mounted screens
- Front pane, laminated glass/AS2

### Comfort

- Bege std seat incl heating
- Bege aircushioned incl 3 point safety-belt and heating
- I sringhausen , air-cushioned, 3 point belt, heating
- Head rest, bege
- Armrest left side, bege
- Extra seat incl safety belt
- Bracket for terminal and monitor, right side
- Writing pad with reading lamp
- Adjustable steering column

### Controls

- Lever steering incl switch for forward/reverse
- Mini steering incl switch for forward/reverse
- Key switch replace std override switch

### Climate

- Sun visor frontscreen
- Sun visor roof pane
- Sun visor roof pane
- Microfilter in addition to std filter
- AC switched off when door is open
- Postheating additional
- Radio with CD, 24V
- 24/12V transducer communication radio
- Electric air pressure horn
- Printer

## Drive train

- Volvo TAD762VE  
+ Dana 17000 (Stage IIIB)
- Automatic engine and ignition stop at idle
- Precleaner AIR intake incl raised air intake
- Speed limitation
- Muffler and exhaustpipe in stainless steel

## Hydraulics

- High pressure filter

## Body

- Anti-slip protection, fenders, and tanks.
- Mud flaps
- External rear view mirror 2/pc

## Electrical system

- Container counter with reset function
- Extra working light fitted on boom 70 w/pair
- Extra working light fitted on fenders 70 w/4 pcs
- Extra working light fitted on spreader 70 w/pair
- All std working lights replaced by xenon
- Extra working light fitted on boom 70 w/pair, xenon
- Extra working light fitted on fenders 70 w/4 pcs, xenon
- Extra working light fitted on spreader 70 w/pair, xenon
- US indication on the display
- Diagnostic driving information on the display
- Drivers identification code, 8 codes
- Service interval indication in display
- TV-camera with monitor in cab direction rearward
- LED-lights replace std rear, brake, parking and indicator light

## Wheels

- Spare wheel 14.00×24

## Colour

- Other colour than std, chassis
- Other colour than std, cab
- Reinforced anti-corrosion protection

## Documentation and decals

- Extra set of documentation
- Workshop manual
- Cummins troubleshooting and repair kit
- Volvo trouble shooting and repair kit
- Loadchart lbs//inch inside cab and sign "no riders"
- Documentation on cd

## Additional equipment

- Tool kit
- Fire extinguisher 6 kg, powder
- Lockable fuel cap
- Engine heater incl. cab heater
- Engine/ hydraulic oil heater incl. cab heater
- Engine heater incl cab heater US std
- Engine/hydraulic oil heater incl. cab heater US std
- Central greasing base machine
- Central greasing spreader
- Filter kit 2000 hrs

## Attachment

- Tilt toplift ±2 degrees
- Rotations stop on spreader ±25 degrees with override switch
- Automatic extension 20'-40' incl. 30' stop

## Training

- Working ECO driving (contact Cargotec Training Academy for information)



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