

HIGH STANDARD LIFT TRUCKS

# KONECRANES LIFTACE REACH STACKERS



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**Konecranes Liftace Reach Stackers consist of the well-known TFC models and the R models launched in April 2015 under the Liftace name. Built on engineering tradition and expertise, these reach stackers are dependable workhorses, simple to maintain, robust and good value for money. Thanks to a high degree of standardization, terminal operators benefit from short delivery lead times – making Konecranes Liftace Reach Stackers available, servicable and durable.**

Konecranes Liftace Reach Stackers are of high standard and specially designed to work with modern control systems and drive technology. Engines comply with emission standards EU Stage IIIA (EPA Tier 3) and EU Stage IV (EPA Tier 4 final).

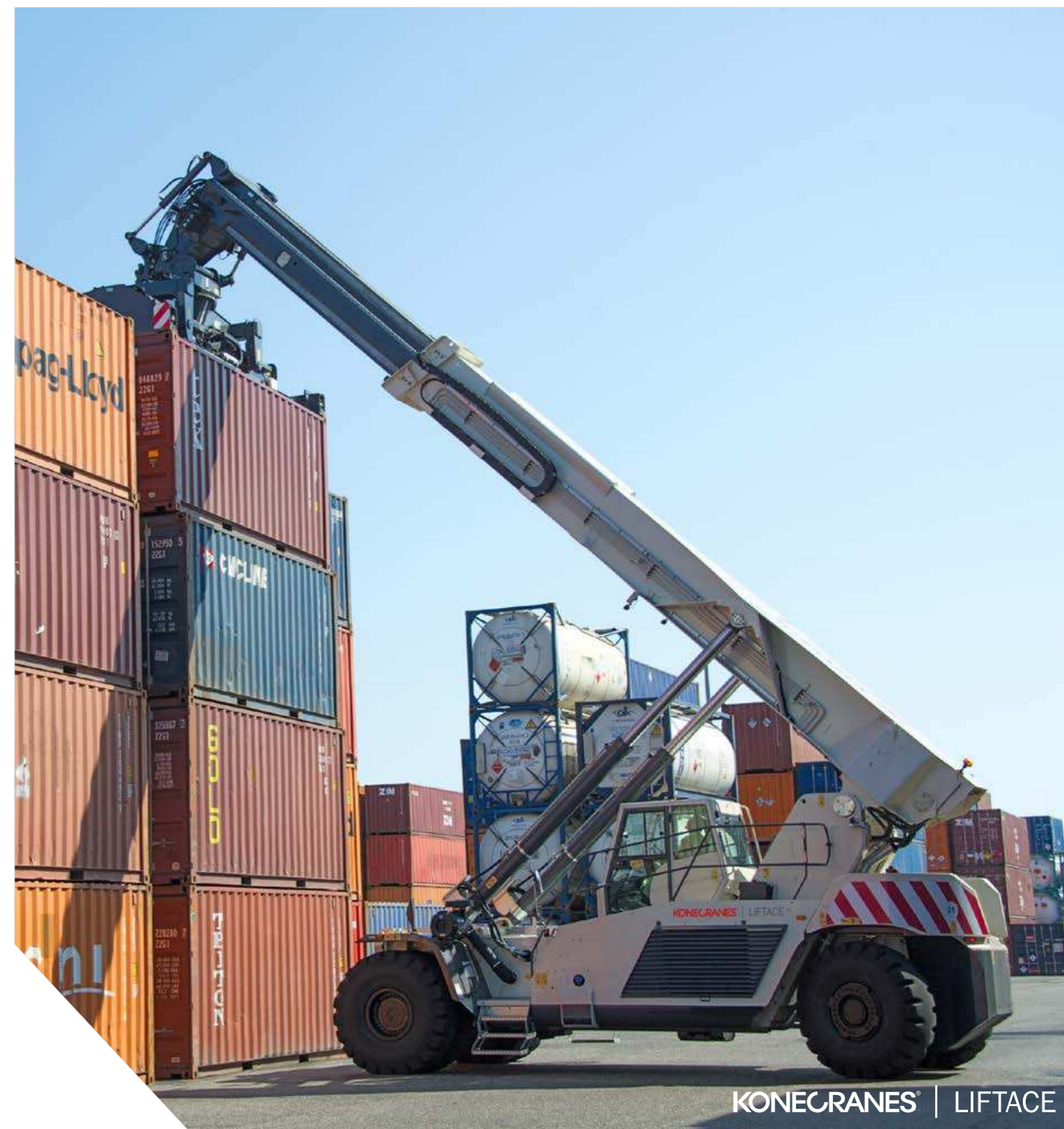
### Versatile, reliable and powerful

Whether for use in port, railway or intermodal terminals, in container stackyards or any other area of logistics, Konecranes Liftace Reach Stackers are known for good quality, robust design and reliability in operation when handling containers or heavy general cargo. With the durable Konecranes Liftace Spreaders, 20' to 40' containers are stacked up to 1-over-6 high-cube containers high.

To handle general cargo, the machines can be fitted with dedicated lifting gear. Konecranes Liftace Reach Stackers meet the challenges of professional cargo handling with high loading capacities of 45 t and high working speeds while providing simple and safe operation.

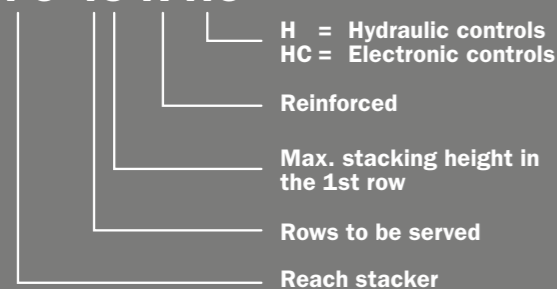
### Konecranes Liftace Reach Stackers at a glance

- Productive – working speeds for efficient handling rates
- Economical – low fuel consumption and predictable maintenance cost
- Simple – operation and maintenance
- Proven technology – agile, robust and reliable
- Safe – reliable monitoring and excellent visibility



## TFC MODEL PRODUCT DESIGNATIONS

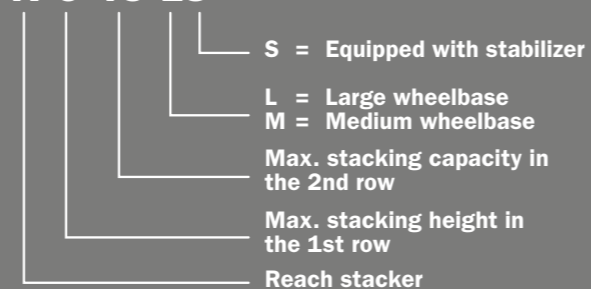
### TFC 45 R HC



The TFC models continue to bear their well-known product designation.

## R MODEL PRODUCT DESIGNATIONS

### R 6-45 LS



The reach stackers launched under the Liftace name in April 2015 have been renamed. Their previous designation is now preceded by an R.

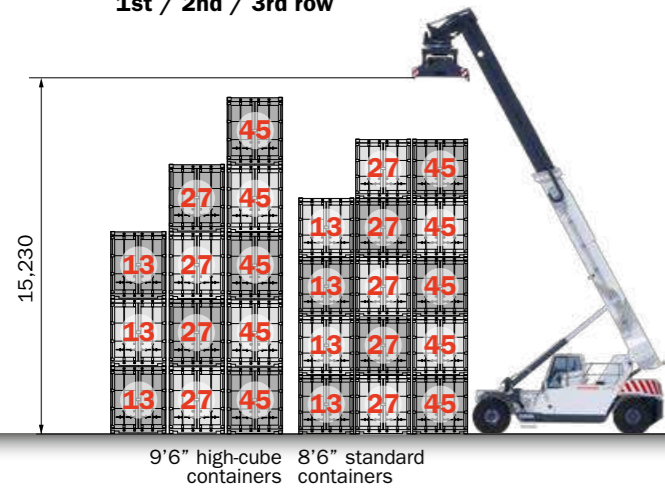
# TECHNICAL DATA

Model	TFC 45 h/hc *	TFC 45 R h/hc *	R 5-31	R 5-33	R 5-36	R 6-36 M	R 6-41 MS	R 6-45 LS
<b>Capacities</b>								
Front stabilizer (stacking capacities with stabilizer applied)							✓	✓
<b>Maximum stacking height, 1st / 2nd / 3rd row</b>								
- 8'6" standard containers	5 / 5 / 4	5 / 5 / 4	5 / 5 / 4	5 / 5 / 4	5 / 5 / 4	6 / 6 / 5	6 / 6 / 5	6 / 5 / 4
- 9'6" high-cube containers	5 / 4 / 3	5 / 4 / 3	5 / 4 / 3	5 / 4 / 3	5 / 4 / 3	6 / 5 / 4	6 / 5 / 4	5 / 5 / 4
<b>Maximum capacity, 1st / 2nd / 3rd row [t]</b>								
- 8'6" and 9'6" containers	45 / 27 / 13	45 / 31 / 16	45 / 31 / 15	45 / 33 / 17	45 / 36 / 18	45 / 36 / 18	45 / 41 / 31	45 / 45 / 36
<b>Maximum speeds</b>								
Lifting [m/s]								
- laden, 26 t	h: 0.25 / hc: 0.26	h: 0.25 / hc: 0.26	0.34	0.34	0.34	0.34	0.34	0.34
- unladen	h: 0.34 / hc: 0.40	h: 0.34 / hc: 0.40	0.45	0.45	0.45	0.45	0.45	0.45
Lowering [m/s]								
- laden, 26 t	0.50	0.50	0.45	0.45	0.45	0.45	0.45	0.45
- unladen	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Traveling [km/h]								
- laden, 45 t	25	25	25	25	25	25	25	20
- unladen	25	25	25	25	25	25	25	20
<b>Weights [t]</b>								
Total weight (unladen, with standard top pick spreader)	68	72	71	73	75	72	80	81
Axle load, front / rear [t]								
- laden, 45 t (boom $\alpha = 45^\circ$ )	87 / 26	87 / 30	87 / 29	87 / 31	87 / 33	88 / 29	89 / 36	85 / 41
- laden, 30 t (boom $\alpha = 45^\circ$ )	69 / 29	69 / 33	69 / 32	69 / 34	69 / 36	70 / 32	71 / 39	68 / 43
- unladen (boom $\alpha = 25^\circ$ )	36 / 32	36 / 36	38 / 33	38 / 35	38 / 37	38 / 34	40 / 40	39 / 42
<b>Wheels and tires</b>								
Tire size	18.00-25	18.00-25	18.00-25	18.00-25	18.00-33	18.00-25	18.00-33	18.00-33
Rim size	13.00-25	13.00-25	13.00-25	13.00-25	15.00-25	13.00-25	15.00-25	15.00-25
Number of wheels, front (driven) / rear	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
<b>Additional data</b>								
Drawbar pull [kN]								
- with standard Stage IIIA (Tier 3) engine Cummins QSM11	290	290	280	280	260	280	260	260
- with standard Stage IV (Tier 4f) engine Volvo TAD1170VE	n.a.	n.a.	280	280	260	280	260	260
- with optional Stage IV (Tier 4f) engine Cummins QSL9	n.a.	n.a.	280	280	260	280	260	260
Maximum gradeability with standard Stage IIIA (Tier 3) engine [%]								
- laden, 45 t	24.8	24.5	24.0	23.0	20.0	23.0	20.0	20.0
- unladen	42.0	40.0	40.0	38.0	34.0	39.0	32.0	32.0
Maximum gradeability with standard Stage IV (Tier 4f) engine [%]								
- laden, 45 t	n.a.	n.a.	24.0	23.0	20.0	23.0	20.0	20.0
- unladen	n.a.	n.a.	40.0	38.0	34.0	39.0	32.0	32.0
Maximum gradeability with optional Stage IV (Tier 4f) engine [%]								
- laden, 45 t	n.a.	n.a.	24.0	23.0	20.0	23.0	20.0	20.0
- unladen	n.a.	n.a.	40.0	38.0	34.0	39.0	32.0	32.0

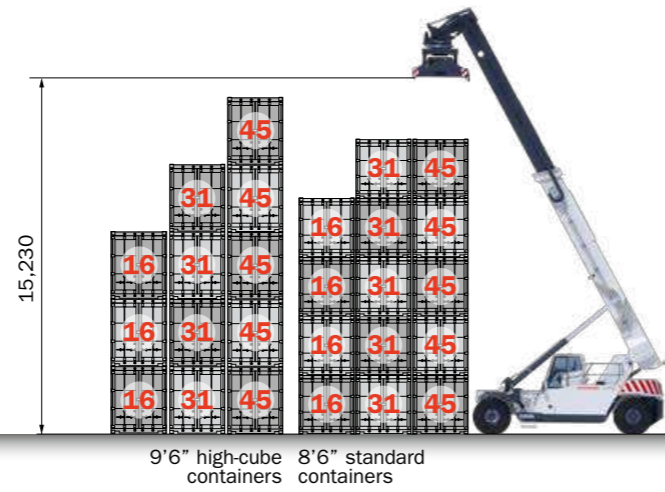
\* TFC 45 and TFC 45 R are available with hydraulic (h) or electronic (hc) controls.  
All other models are equipped with electronic controls.

# LOAD CHARTS

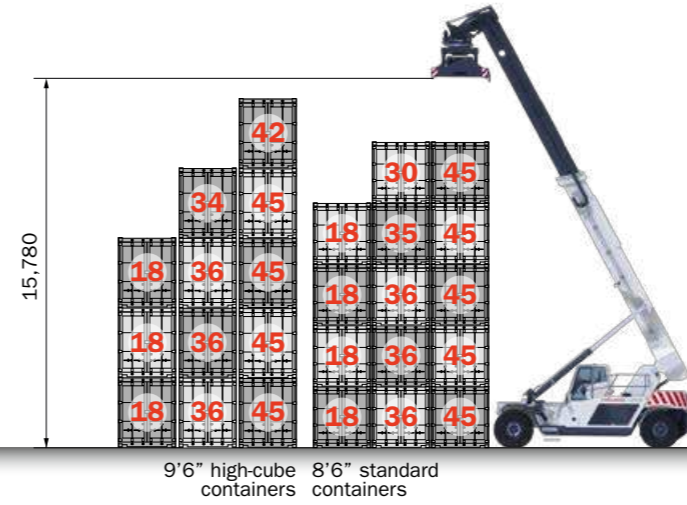
Capacity and maximum stacking height,  
1st / 2nd / 3rd row



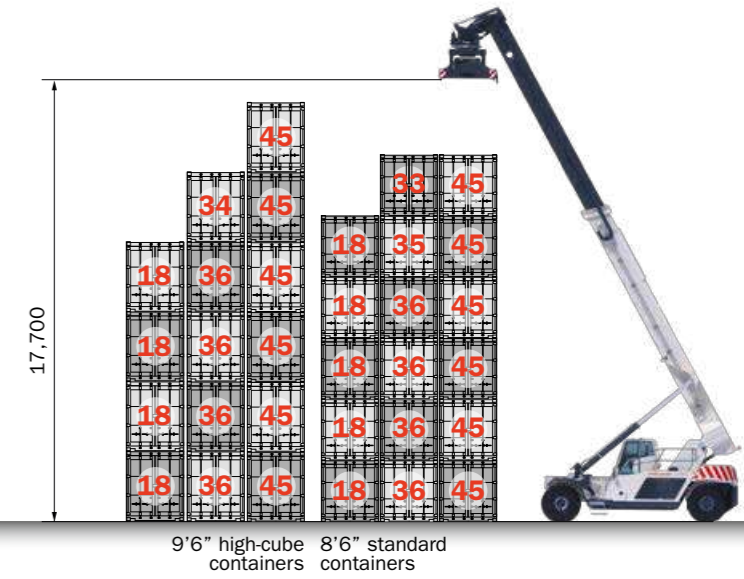
TFC 45 h/hc



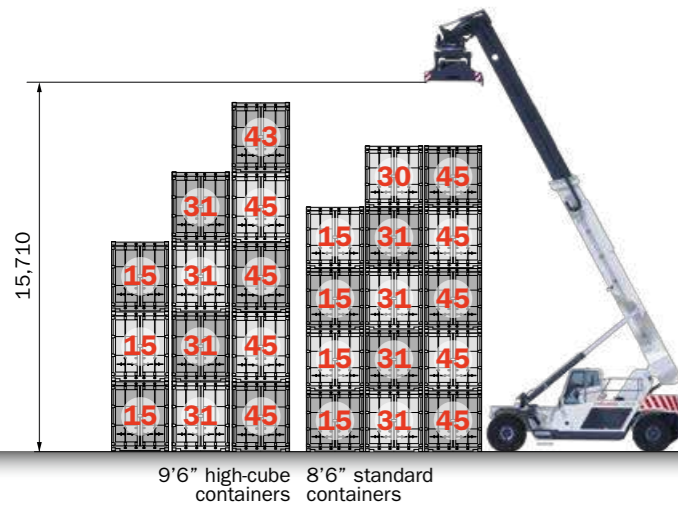
TFC 45 R h/hc



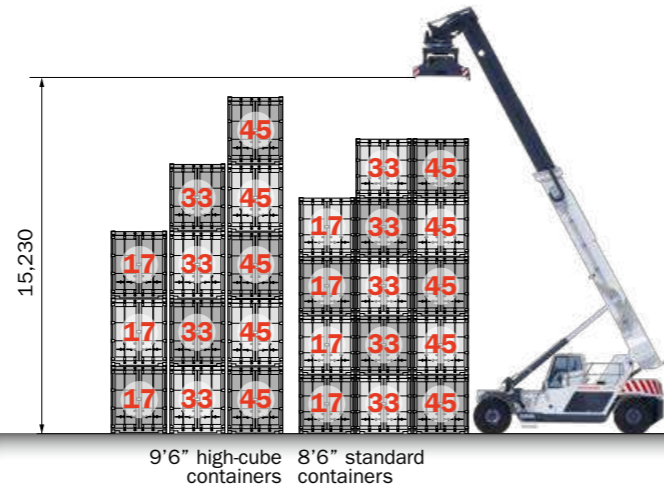
R 5-36



R 6-36 M



R 5-31



R 5-33



R 6-41 MS



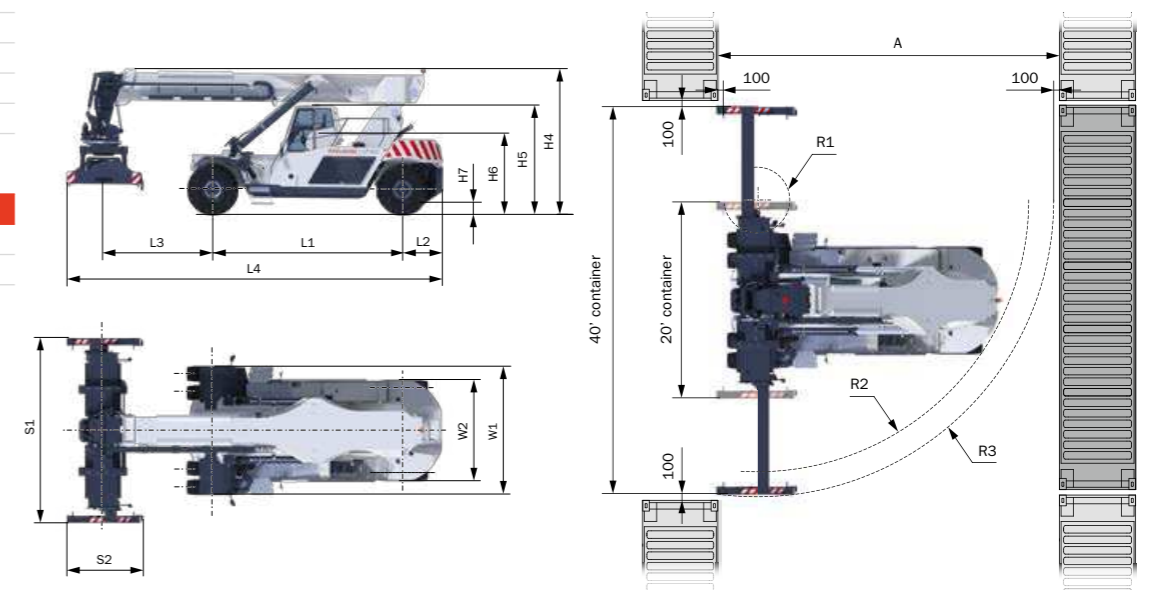
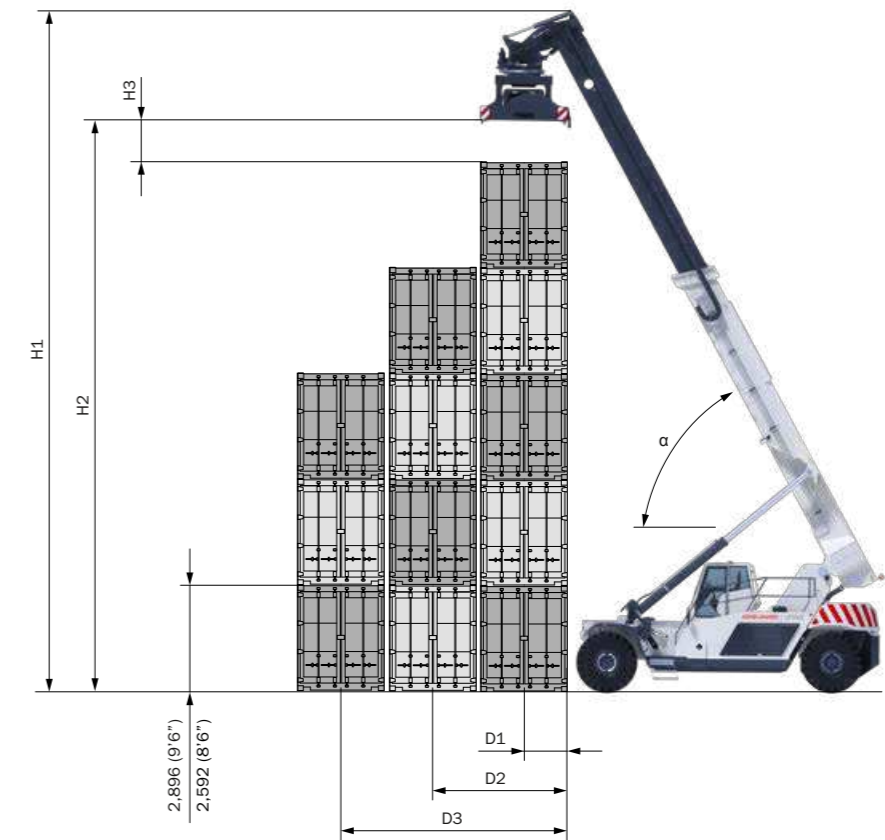
R 6-45 LS

All dimensions in mm. All capacities in t.

# DIMENSIONS

Model		TFC 45 h/hc*	TFC 45 R h/hc*	R 5-31	R 5-33	R 5-36	R 6-36 M	R 6-41 MS	R 6-45 LS
<b>Heights [mm]</b>									
H1	Maximum boom height, 1st row	18,530	18,530	18,900	18,900	18,970	20,780	20,850	20,850
H2	Maximum lifting height under twist-lock, 1st row	15,230	15,230	15,710	15,710	15,780	17,375	17,375	17,070
H3	Lifting height clearance <sup>1)</sup>								
	– 8'6" containers	2,270	2,270	2,755	2,755	2,825	2,150	2,090	1,500
	– 9'6" containers	750	750	1,240	1,240	1,310	330	280	2,570
H4	Minimum boom height	4,530	4,530	4,640	4,640	4,710	4,710	4,710	4,710
H5	Cab height	3,600	3,600	3,550	3,550	3,620	3,620	3,620	3,620
H6	Seat height	2,600	2,600	2,530	2,530	2,600	2,600	2,600	2,600
H7	Ground clearance (unladen)	320	320	270	270	340	270	340	340
<b>Widths [mm]</b>									
W1	Front	4,190	4,190	4,190	4,190	4,190	4,190	4,190	4,190
W2	Rear	3,345	3,345	3,345	3,345	3,345	3,345	3,345	3,345
<b>Lengths [mm]</b>									
L1	Wheelbase	6,000	6,000	6,200	6,200	6,200	6,600	6,600	7,000
L2	Rear overhang	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
L3	Minimum distance driving axle center to load center	3,450	3,450	3,580	3,580	3,580	3,920	3,920	3,515
L4	Overall length	11,950	11,950	12,290	12,290	12,290	13,020	13,020	13,020
<b>Distances [mm]</b>									
D1	From tires to load center (1st row)	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,000
D2	From tires to load center (2nd row)	3,860	3,860	3,815	3,815	3,815	3,815	3,815	3,815
D3	From tires to load center (3rd row)	6,400	6,400	6,315	6,315	6,315	6,315	6,315	6,315
<b>Other dimensions</b>									
α	Maximum boom angle [°]	62.0	62.0	65.0	65.0	65.0	65.0	65.0	60.0
A	90° stacking aisle [mm]								
	– 20' container	10,210	10,210	9,900	9,900	9,900	9,900	10,620	10,820
	– 40' container	12,830	12,830	12,390	12,390	12,390	12,390	12,390	12,390
R1	Internal turning radius [mm]	1,840	1,840	1,200	1,200	2,000	1,300	2,100	2,300
R2	Rear turning radius [mm]	8,700	8,700	8,500	8,500	8,900	8,950	9,350	9,600
R3	External turning radius, 40' container [mm]	10,420	10,420	9,500	9,500	10,250	10,420	10,420	10,620
<b>Spreader [mm]</b>									
S1	Length	6,072	6,072	6,072	6,072	6,072	6,072	6,072	6,072
S2	Width	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400

1) Referred to maximum stacking height.



All dimensions in mm. All capacities in t.

# STANDARD EQUIPMENT

## TFC models

### Control system

- IQAN-MD3 <sup>1)</sup>
- Load moment indicator
- 3.5" TFT color display
- Displayed values: boom length, angle and radius; hydraulic flows and pressures
- Internal memory capacity of 80,000 records
- Load moment indicator

Auto-diagnostic function

Anti-tipping device

### Cab

Ergonomically designed, soundproofed (noise level ≤ 70 dB(A))

High comfort seat

- with mechanical suspension

Air conditioning and heating system

CD audio system <sup>2)</sup>

### Additional design features

Lighting

- Bulb traffic and working lights

Tires

- Tubeless pneumatic tires

### Spreader and lifting gear

Top pick spreader

- ISO containers (20' / 40') with mechanical pile slope

Automatic stop at 30' and automatic locking <sup>3)</sup>

Electrical & mechanical twistlock safety system

12 t lifting eye on each spreader corner

1) Option for model TFC 45 h.

2) Option for models TFC 45 h and TFC 45 R h.

3) Only for hc versions.

More information about additional options on request.

## R models

### Control system

- Motronica® control system
- 7" TFT color display
- Operative and diagnostic black box
- Container counter
- Load moment indicator with pressure sensors
- EcoPower fuel saving mode
- Black box data download via USB

CAN bus for engine, transmission and hydraulics

Vertical lifting control

Automatic lifting cut-off in case of overload detection

Engine and transmission protection system

Power on demand

Reverse driving audio signal

### Cab

Comfortable and ergonomically designed with excellent visibility

2-point driver safety belt

Air conditioning and heating systems

Manual sliding

Rear emergency window

Front, rear and top wipers

12 V & 24 V plugs

CD/radio system

### Additional design features

Lighting

- LED working lights

- LED traffic lights

- Marker lights

Wheel nut protection

Master battery disconnect

2-stage heavy duty air intake filter

### Spreader and lifting gear

Top pick spreader

- ISO containers (20' / 40') with mechanical pile slope

Automatic stop at 30'

Electrical & mechanical twistlock safety system

12 t lifting eye on each spreader corner

More information about additional options on request.

## TFC models

### Diesel engines

	TFC models	R models	
Make	Cummins QSM 11	Cummins QSM 11	Volvo TAD1170VE
Emission standard	Stage IIIA (Tier 3)	Stage IIIA (Tier 3)	Stage IV (Tier 4 final)
Type	Inline 6 cylinder, turbocharged	Inline 6 cylinder, turbocharged	Inline 6 cylinder, turbocharged
Cooling system	Water	Water	Water
Displacement [l]	11	11	11
Maximum power [kW @ rpm]	239 @ 1,800	239 @ 1,800	235 @ 1,800
Maximum torque [Nm @ rpm]	1,478 @ 1,500	1,478 @ 1,500	1,550 @ 1,400
Alternator	70 A - 24 V	70 A - 24 V	110 A - 24 V
Batteries	2 x 12 V - 200 Ah	2 x 12 V - 200 Ah	2 x 12 V - 200 Ah

### Transmission

	TFC models	R models
Make	Dana TE27 418	Dana TE30 (Optionally with lock-up clutch)
Type	Automatic powershift control	Automatic powershift control
Speeds, forward / reverse	4 / 4	5 / 3

### Driving axle

	TFC models	R models
Make	Kessler D102	Kessler D102
Type	Double reduction	Double reduction
Braking system	Maintenance free wet disc brakes	Maintenance free wet disc brakes
Steering system	Fully hydrostatic with double acting steering cylinder	Fully hydrostatic with double acting steering cylinder

### Hydraulic system

	TFC models	R models
Main system	Load sensing control	Load sensing control
Main pump	Variable displacement double piston pump (145 cm <sup>3</sup> + 125 cm <sup>3</sup> )	Variable displacement double piston pump (145 cm <sup>3</sup> + 125 cm <sup>3</sup> )
Maximum working pressure [bar]	320	320

### Tank capacities


	TFC models	R models
Hydraulic oil [l]	750	750
Fuel [l]	700	700

### Konecranes Liftace Top Pick Spreader for TFC and R models

	TFC models	R models
Lifting system	4 vertical twistlocks, ISO pendular	
Telescoping, 20' to 40' [s]	12	
Side shift, +/- 800 mm [s]	15	
Slewing, +210°/-125° [s]	65	
Mechanical pile slope [°]	+/- 4	
Powered pile slope [°] (optional)	+/- 5	
Tilting [°]	+/- 10	
Weight [t]	8	



Konecranes is a world-leading group of Lifting Businesses™, serving a broad range of customers, including manufacturing and process industries, shipyards, ports and terminals. Konecranes provides productivity enhancing lifting solutions as well as services for lifting equipment of all makes. The Group has 18,000 employees at 600 locations in 50 countries. Konecranes is listed on Nasdaq Helsinki (symbol: KCR).

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