Kalmar DCE90-180
Lift trucks 9 – 18 tonnes

Technical information, Stage III

A truck offering many possibilities

The Kalmar 9 – 18 tonne range has a unique driving experience, visibility and handling which, together with high quality, long life and ease of service, provide the conditions for efficient working and excellent overall economy.

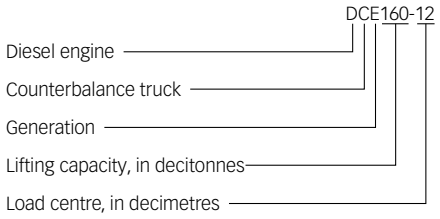
Powerful and durable power trains with electronically controlled gear units are perfectly matched with environmentally friendly engines. These machines have well balanced bodies for optimum dynamic stability and visibility.

The number of options provide an unbelievable driving experience, safety and efficiency.

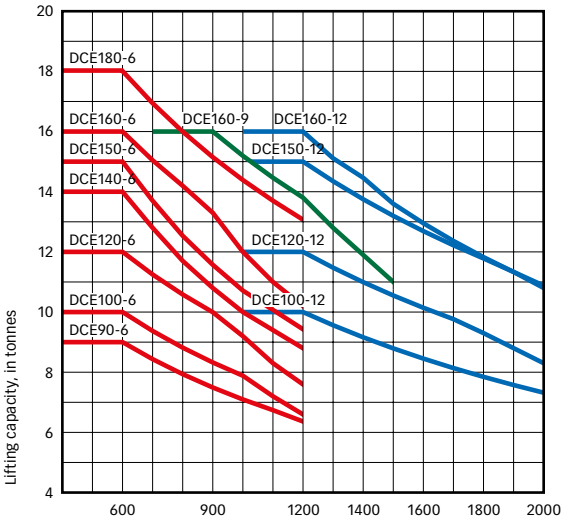
Design and technical solutions result in increased lifetime and longer service intervals; simplified service and daily inspection, and in addition to all this, a wide selection of high-quality driving environments.

Welcome to the Kalmar 9 – 18 tonne range.

Model designation

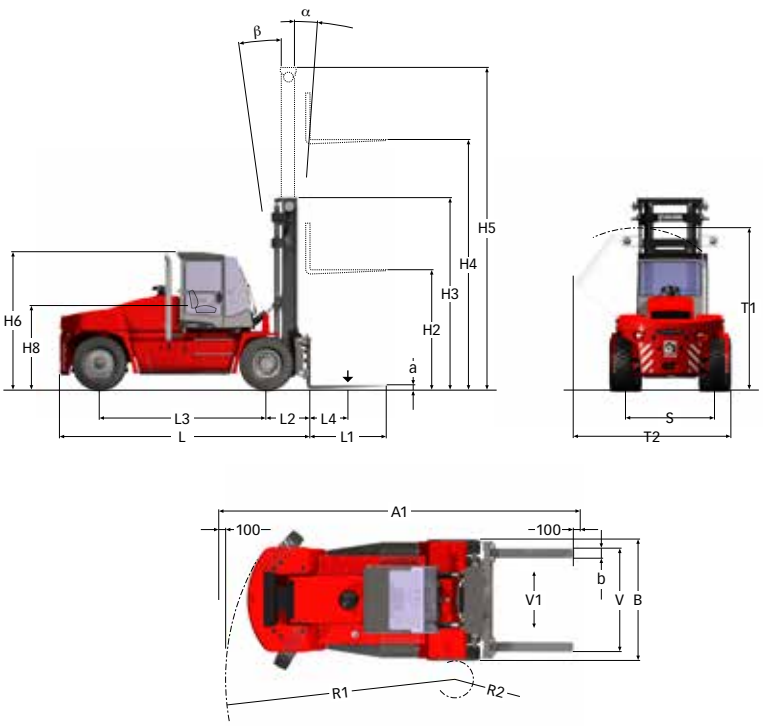


Dimensions			DCE90-6	DCE100-6	DCE120-6
Lifting capacity	Rated (kg)		9000	10000	12000
	Load centre (mm)	L4	600	600	600
Truck	Truck length (mm)	L	4470	4720	4725
	Truck width (mm)	B	2480	2480	2480
	Height, basic machine, Spirit Delta (mm)	H6	2895	2895	2895
	Height, basic machine, FlexCab / FlexGuard (mm)	H6	2995	2995	2995
	Seat height, Spirit Delta / FlexCab / FlexGuard (mm)	H8	1770	1770	1770
	Distance between centre of front axle – front face of fork arm (mm)	L2	895	895	900
	Wheelbase (mm)	L3	2750	3000	3000
	Track (c-c), front – rear (mm)	S	1840 – 1960	1840 – 1960	1840 – 1960
	Turning radius, outer – inner (mm)	R1 – R2	3950 – 75	4180 – 75	4180 – 75
	Ground clearance, min. (mm)		330	330	330
	Height when tilting cab, max. Spirit Delta (mm)	T1	3370	3370	3370
	Width when tilting cab, max. Spirit Delta (mm)	T2	3350	3350	3350
	Height when tilting cab, max. FlexCab / FlexGuard (mm)	T1	3450	3450	3450
	Width when tilting cab, max. FlexCab / FlexGuard (mm)	T2	3440	3440	3440
	Min. ailse width for 90° stacking with forks (mm)	A1	6240	6470	6475
Standard duplex mast	Lifting height (mm)	H4	5000	5000	5000
	Mast height, min. (mm)	H3	4015	4015	4015
	Mast height, max (mm)	H5	6515	6515	6515
	Mast tilting, forward – backward (°)	α – β	5 – 10	5 – 10	5 – 10
	Ground clearance, min. (mm)		250	250	250
Forks	Width (mm)	b	200	200	200
	Thickness (mm)	a	65	65	70
	Length of fork arm (mm)	l	1200	1200	1200
	Width across fork arms, max. – min. (mm)	V	2330 – 570	2330 – 570	2330 – 570
	Sideshift ± at width across fork arms (mm)	V1 – V	440 – 1450	440 – 1450	440 – 1450
Weight	Service weight (kg)		15200	15600	16200
	Axle load front, unloaded (kg)		7800	8100	8300
	Axle load front, at rated load (kg)		21700	23100	26500
	Axle load back, unloaded (kg)		7400	7500	7900
	Axle load back, at rated load (kg)		2500	2500	1900
Wheels / tyres	Type, front – rear		Pneumatic – Pneumatic		
	Dimensions, front – rear / ply (inch)		11,00×20/16PR	11,00×20/16PR	11,00×20/16PR
	Number of wheels, front – rear (*driven)		4* – 2	4* – 2	4* – 2
	Pressure (Mpa)		0,9	0,9	0,9
Steering system	Type – manoeuvring		Hydraulic servo – Steering wheel		
Service brake system	Type – affected wheels		Oil cooled disc brakes (Wet disc brakes) – drive wheels		
Parking brake system	Type – affected wheels		Dry, spring activated disc brake – drive wheels		
Hydraulic pressure	Max. (Mpa)		16,0	17,5	17,5
Hydraulic fluid volume	(l)		205	225	225
Fuel volume	(l)		140	200	200



Load centre, mm

DCE90-6 to DCE180-6 models:
Full lifting capacity up to 5000 mm lift height with duplex/duplex freelift/triplex masts and integrated sideshift/fork positioning carriage.



DCE140-6	DCE150-6	DCE100-12	DCE120-12	DCE150-12	DCE160-6	DCE160-9	DCE160-12	DCE180-6
14000	15000	10000	12000	15000	16000	16000	16000	18000
600	600	1200	1200	1200	600	900	1200	600
4985	5055	5065	5315	5325	5305	5315	5575	5065
2540	2540	2540	2540	2540	2540	2540	2540	2540
2920	2920	2920	2920	2920	2920	2920	2920	2920
3020	3020	3020	3020	3020	3020	3020	3020	3020
1790	1790	1790	1790	1790	1790	1790	1790	1790
910	980	990	990	1000	980	990	1000	990
3250	3250	3250	3500	3500	3500	3500	3750	3250
1855 – 1960	1855 – 1960	1855 – 1960	1855 – 1960	1855 – 1960	1855 – 1960	1855 – 1960	1855 – 1960	1855 – 1960
4360 – 125	4360 – 125	4360 – 125	4785 – 420	4785 – 420	4785 – 420	4785 – 420	5175 – 600	4360 – 125
350	350	350	350	350	350	350	350	350
3395	3395	3395	3395	3395	3395	3395	3395	3395
3380	3380	3380	3380	3380	3380	3380	3380	3380
3475	3475	3475	3475	3475	3475	3475	3475	3475
3470	3470	3470	3470	3470	3470	3470	3470	3470
6665	6735	7945	8370	8380	7160	8160	8770	6745
5000	5000	5000	5000	5000	5000	5000	5000	5000
4035	4195	4195	4195	4195	4195	4195	4195	4195
6535	6695	6695	6695	6695	6695	6695	6695	6695
5 – 10	5 – 10	5 – 10	5 – 10	5 – 10	5 – 10	5 – 10	5 – 10	5 – 10
250	250	250	250	250	250	250	250	250
200	200	220	220	250	200	220	250	220
80	80	90	90	100	80	90	100	90
1200	1200	2400	2400	2400	1200	1800	2400	1200
2330 – 570	2360 – 640	2360 – 640	2360 – 640	2360 – 700	2360 – 600	2360 – 640	2360 – 700	2360 – 640
440 – 1450	430 – 1500	430 – 1500	430 – 1500	415 – 1530	440 – 1480	430 – 1500	415 – 1530	430 – 1500
16900	19800	18600	19700	21400	19200	20600	22400	21100
8400	10300	10000	10100	9400	10000	9600	10500	9800
28900	32650	26700	29600	33800	33200	34200	35800	36600
8500	9500	8600	9600	12000	9200	11000	11900	11300
2000	2150	1900	2100	2600	2000	2400	2600	2500
Pneumatic – Pneumatic								
12,00×20/20PR	12,00×20/20PR	12,00×20/20PR	12,00×20/20PR	12,00×20/20PR	12,00×20/20PR	12,00×20/20PR	12,00×20/20PR	12,00×20/20PR HD
4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2
0,9	0,9	0,9	0,9	0,9	0,9	1,0	1,0	1,0
Hydraulic servo – Steering wheel								
Oil cooled disc brakes (Wet disc brakes) – drive wheels								
Dry, spring activated disc brake – drive wheels								
18,5	19,0	19,5	15,0	16,5	17,5	17,5	17,5	19
225	225	225	225	225	225	225	225	225
200	200	200	200	200	200	200	200	200

Choose your own driving environment

Spirit Delta

Spirit Delta is one of the best designed driving environments available in the industry. Priority has been given to ergonomics for the driver. After a demanding shift in a Spirit Delta, the driver should be alert and attentive, resulting in improved working safety.

The overall design and all the adjustment options mean that the Spirit Delta will benefit every driver. Instruments and control layout allow the driver to see at a glance and have control over all the machine's various functions, while at the same time allowing the driver to work in an efficient and relaxed way.

Visibility has been optimised by the truck's soft design lines. Comfort with regard to noise level, climate, lighting and accessibility is at the highest level possible.

The operator of the Spirit Delta can have access to Kalmar's range of intelligent efficiency and safety options in one place.

FlexCab and FlexGuard

FlexCab is a robust alternative to the Spirit Delta. FlexCab provides good ergonomics, good visibility and also practical flexibility.

FlexCab can be quickly and simply converted from a complete cabin to an open safety cage with or without windows, side panels and heating system, depending on climate. FlexGuard is the opposite, an open safety cage that can be fitted with windows and doors even after delivery.

The robust body has been designed to provide optimal visibility. This is especially noticeable at the corner posts and roof rails, which have the smallest cross section possible for the benefit of the driver. The visibility is substantial and the distance between the driver seat and the roof has generous space.

Efficient operation is ensured by control and instrument layout and the degree of comfort of the driver seat.

FlexCab

FlexGuard

A complete program of lifting equipment

Choosing lifting equipment always involves a combination of different requirements – lift height, clearance, free lift, carriage flexibility, as well as built in functions in the carriage. Whatever the requirements, We have the combination that allows efficient operation and optimum visibility conditions. The mast frame on the Kalmar 9 – 18 series has excellent visibility. Optimised frame and cross bars have been combined with well-placed hoses and hoist chains that are "invisible" during normal operation.

We can offer numerous options to improve efficiency and safety, opti speed (increased lifting speed), lift height preset (going directly to the right height), vertical hold (always vertical) and chain-slack elimination.

Duplex standard, clear view

Lift height H4	Mast height H3 min	Mast height H5 max	Free lift H2	Mast height H3 min	Mast height H5 max	Free lift H2
	DCE90-140*			DCE100-180**		
3000	3015	4515	–	3195	4695	–
3250	3140	4765	–	3320	4945	–
3500	3265	5015	–	3445	5195	–
3750	3390	5265	–	3570	5445	–
4000	3515	5515	–	3695	5695	–
4250	3640	5765	–	3820	5945	–
4500	3765	6015	–	3945	6195	–
4750	3890	6265	–	4070	6445	–
5000	4015	6515	–	4195	6695	–
5250	4140	6765	–	4320	6945	–
5500	4265	7015	–	4445	7195	–
5750	4390	7265	–	4570	7445	–
6000	4515	7515	–	4695	7695	–
6500	4765	8015	–	4945	8195	–
7000	5015	8515	–	5195	8695	–

Duplex full free lift, clear view

Lift height H4	Mast height H3 min	Mast height H5 max	Free lift H2	Mast height H3 min	Mast height H5 max	Free lift H2
	DCE90-140*			DCE100-180**		
3000	3015	4515	1500	3195	4695	1500
3250	3140	4765	1625	3320	4945	1625
3500	3265	5015	1750	3445	5195	1750
3750	3390	5265	1875	3570	5445	1875
4000	3515	5515	2000	3695	5695	2000
4250	3640	5765	2125	3820	5945	2125
4500	3765	6015	2250	3945	6195	2250
4750	3890	6265	2375	4070	6445	2375
5000	4015	6515	2500	4195	6695	2500
5250	4140	6765	2625	4320	6945	2625
5500	4265	7015	2750	4445	7195	2750
5750	4390	7265	2875	4570	7445	2875
6000	4515	7515	3000	4695	7695	3000
6500	4765	8015	3250	4945	8195	3250
7000	5015	8515	3500	5195	8695	3500

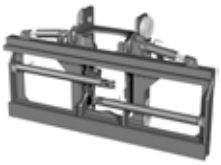
Triplex full free lift, clear view

Lift height H4	Mast height H3 min	Mast height H5 max	Free lift H2	Mast height H3 min	Mast height H5 max	Free lift H2
	DCE90-140*			DCE100-180**		
4500	2950	5950	1500	3130	6190	1500
5000	3117	6450	1667	3297	6690	1667
5500	3283	6950	1833	3463	7190	1833
6000	3450	7450	2000	3630	7690	2000
6500	3617	7950	2167	3797	8190	2167
7000	3783	8450	2333	3963	8690	2333

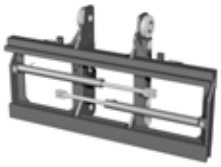
+25 mm on H3 and H5 on the DCE140
** DCE90-140-6*
*** DCE150-180-6, DCE160-9, DCE100-160-12*

Duplex standard, free visibility

Fixed for manually moveable forks



Centre levelling



Fork positioning and sideshift

Sideshift

Duplex full free lift, free visibility

Forks for manual adjustment

Fork shaft system with separate carriers for each fork

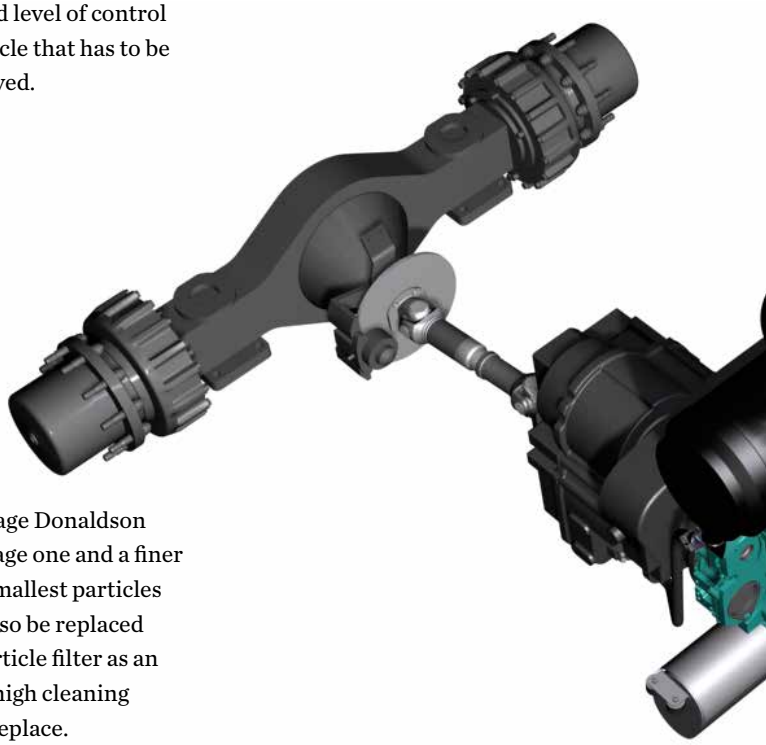
Triplex full free lift, free visibility

Roller fittings for hydraulic adjustment

Hydraulic levelling

The most interesting power trains on the market

We have equipped the Kalmar 9 – 18 tonne range with excellent drive trains. Engine, gearbox, drive shaft and wet disc brakes – everything has been built and combined into a unit with the highest performance and durability possible. Together with the excellent dynamic stability of the 9 – 18 series, this provides a driving experience and level of control throughout the work cycle that has to be experienced to be believed.



Low emission engines – a requirement

We can offer a number of different power trains. All engines provide high torque even at low revolutions. The engines fall well within the latest emission requirements and they also conform to the new noise power standards (previously noise pressure).

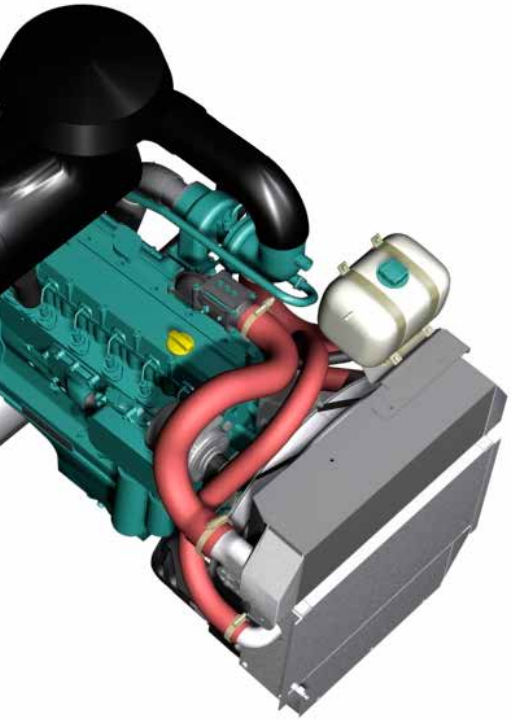
Stage III engines require more powerful cooling than before and the trucks come fitted with an efficient and easy-to-service split cooling system – for air and fuel and coolant to the engine and gearbox.

The air filter is a two-stage Donaldson with a pre-cleaner in stage one and a finer cellulose filter for the smallest particles in stage two. This can also be replaced by a metallic or dust particle filter as an option. The filter has a high cleaning capacity and is easy to replace.

Unique transmission gives an unbelievable experience

We are able to offer different gearboxes. The gearboxes have integrated electronic control, monitoring and intelligence. The gearboxes have built-in reversing lock and modulation, providing safe and smooth gear changing. In addition we also optimise slipping electronically before delivery to provide the best gear-changing characteristics depending on power train, wheel dimension and drive shaft.

There are three optional grades of "intelligence" to choose from: automatic gear-changing, opti drive (for precision driving with entirely independent working hydraulics) and electronic inching with controlled slipping.



Kalmar's electronic system gives the truck intelligence

Kalmar's electronic system is a fast, intelligent and stable auxiliary electronic system that makes the truck user-friendly, effective, safe and economical. Kalmar's electrical system has been thoroughly upgraded through development. The installation is more standardised and simplified using CAN-bus technology. Furthermore, updated software and electrical components were implemented to deliver a high level of flexibility, ease of maintenance and durability.

Distance since last service and hours to next service.

The Kalmar 9 – 18 tonne range is standardly equipped with a very simple and non-language-specific interface for the information on the steering wheel display. Information is provided in three areas – diagnostics, operation and alarms. The standard control system monitors the engine and gearbox and gives feedback to the operator in the display. There are plenty of options available, from ergonomic functions such as lever and mini steering wheel control, to functions for reduced fuel consumption (opti rev) or increased lifting speed (opti speed).

Drive and steering axle

The steering system is a well proven robust design with a double acting cylinder and a pendulum suspension. The strength and the durability is obvious when you look at the steer axle.

The drive axle has a robust design in order to cope with extreme stresses in tough working environments with heavy loads, high intensity operations and even towing tasks. The drive axle has a two stage reduction to ensure minimum strain on the transmission system- differential and hub reduction.

The axle is fitted with a hydraulic service brake system (Wet Disc Brakes). It is also fitted with the dry disc parking brake actuated electronically via switch in the cabin.

The service brake system is of the Wet Disc Brake type, a well-proven system comprised of a set of fixed and a set of rotating oil-cooled discs. When the brakes are applied, the discs are pressed together by hydraulic pressure from the brake pedal. This provides an extremely effective and smooth braking system which can cope with heavy stresses over an extended period of time without any risk of overheating or fading.

The system is virtually maintenance free with almost no wear and tear and need for brake adjustments. The heat generated during the braking is transmitted via a cooling circuit which effectively uses the truck's total volume of hydraulic fluid. A special filter protects the brakes.

Power trains and Performance

Drive train – Volvo		Volvo TAD660VE (147 kW) Dana TE13000 (•)	Volvo TAD660VE (147 kW) ZF 3WG161 (••)	Volvo TAD760VE (181 kW) Dana TE17000 (•••)
Engine	Manufacturer – type designation	Volvo – TAD660VE (Turbo-Intercooler)	Volvo – TAD660VE (Turbo-Intercooler)	Volvo – TAD760VE (Turbo-Intercooler)
	Fuel – type of engine	Diesel – 4-stroke	Diesel – 4-stroke	Diesel – 4-stroke
	Rating ISO 3046 – at revs (kW – rpm)	147/200 – 2300	147/200 – 2300	181/246 – 2300
	Peak torque ISO 3046 – at revs (Nm – rpm)	800 – 1600	800 – 1600	1050 – 1500
	Number of cylinders – displacement (cm^3)	6 – 6057	6 – 6057	6 – 7145
	Fuel consumption, normal driving (l/h)	8-11	8-11	8-11
Gearbox	Manufacturer – type designation	Dana – TE13000	ZF 3WG161	Dana – TE17000
	Clutch, type	Torque converter	Torque converter	Torque converter
	Gearbox, type	Hydrodynamic Powershift	Hydrodynamic Powershift	Hydrodynamic Powershift
	Numbers of gears, forward – reverse	3 – 3	3 – 3	3 – 3
Alternator	Type – power (W)	AC – 2240	AC – 2240	AC – 2240
Starting battery	Voltage – capacity (V – Ah)	2×12 – 140	2×12 – 140	2×12 – 140
Driving axle	Manufacturer – type	Kessler D81 – Diffrential and hub reduction	Kessler D81 – Diffrential and hub reduction	Kessler D81 – Diffrential and hub reduction

Performance – Volvo		DCE90-6			DCE100-6			DCE120-6			DCE140-6		
		•	••	•••	•	••	•••	•	••	•••	•	••	•••
Lifting speed	Unloaded (m/s)	0,50	–	–	0,50	0,50	0,50	0,40	0,40	0,40	0,40	0,40	0,40
	At rated load (m/s)	0,45	–	–	0,45	0,45	0,45	0,35	0,35	0,35	0,35	0,35	0,35
Lowering speed	Unloaded (m/s)	0,40	–	–	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
	At rated load (m/s)	0,40	–	–	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
Travelling speed, F/R	Unloaded (m/s)	29	–	–	29	29	28	29	29	28	29	29	29
	At rated load (m/s)	28	–	–	28	28	28	27	27	28	28	28	29
Gradeability, max.	Unloaded (%)	>120	–	–	>120	99	>120	>120	92	>120	106	80	>120
	At rated load (%)	61	–	–	56	46	70	49	40	70	42	35	51
Gradeability, at 2 km/h	Unloaded (%)	84	–	–	81	64	108	76	60	108	67	54	86
	At rated load (%)	43	–	–	40	33	49	35	30	43	31	26	37
Drawbar pull	Max. (kN)	129	–	–	129	111	150	129	111	150	124	107	145
Noise level, inside	LpAZ*, Spirit Delta (dB(A))	73	–	–	73	73	74	73	73	74	73	73	74
	LpAZ*, FlexGuard (dB(A))	85	–	–	85	85	85	85	85	85	85	85	85
	LpAZ*, FlexCab (dB(A))	78	–	–	78	78	79	78	78	79	78	78	79
Noise level, outside	LwAZ** (dB(A))	108	–	–	108	108	110	108	108	110	108	108	110

** LpAZ according to EN12053 ** LwAZ according to 2000/14/EC*

Performance – Cummins		DCE90-6		DCE100-6		DCE120-6		DCE140-6	
		•	••	•	••	•	••	•	••
Lifting speed	Unloaded (m/s)	0,50	–	0,50	0,50	0,40	0,40	0,40	0,40
	At rated load (m/s)	0,45	–	0,45	0,45	0,35	0,35	0,35	0,35
Lowering speed	Unloaded (m/s)	0,40	–	0,40	0,40	0,40	0,40	0,40	0,40
	At rated load (m/s)	0.40	–	0,40	0,40	0,40	0,40	0,40	0,40
Travelling speed, F/R	Unloaded (m/s)	31	–	31	31	31	31	32	32
	At rated load (m/s)	28	–	28	31	27	31	28	32
Gradeability, max.	Unloaded (%)	103	–	97	>120	90	>120	79	>120
	At rated load (%)	49	–	46	63	40	55	35	46
Gradeability, at 2 km/h	Unloaded (%)	65	–	63	102	59	94	53	83
	At rated load (%)	35	–	33	47	29	42	25	36
Drawbar pull	Max. (kN)	104	–	104	138	104	138	100	138
Noise level, inside	LpAZ*, Spirit Delta (dB(A))	75	–	75	74	75	74	75	74
	LpAZ*, FlexGuard (dB(A))	85	–	85	85	85	85	85	85
	LpAZ*, FlexCab (dB(A))	79	–	79	79	79	79	79	79
Noise level, outside	LwAZ** (dB(A))	111	–	111	111	111	111	111	111

** LpAZ according to EN12053 ** LwAZ according to 2000/14/EC*

Drive train – Cummins

		Cummins QSB6,7 (129 kW) Dana TE13000 (•)	Cummins QSB6,7 (164 kW) Dana TE17000 (••)
Engine	Manufacturer – type designation	Cummins – QSB6,7 (Turbo-Intercooler)	Cummins – QSB6,7 (Turbo-Intercooler)
	Fuel – type of engine	Diesel – 4-stroke	Diesel – 4-stroke
	Rating ISO 3046 – at revs (kW – rpm)	129/173 – 2200	164/223 – 2200
	Peak torque ISO 3046 – at revs (Nm – rpm)	799 – 1400	949 – 1500
	Number of cylinders – displacement (cm^3)	6 – 6702	6 – 6702
	Fuel consumption, normal driving (l/h)	8-11	8-11
Gearbox	Manufacturer – type designation	Dana – TE13000	Dana – TE17000
	Clutch, type	Torque converter	Torque converter
	Gearbox, type	Hydrodynamic Powershift	Hydrodynamic Powershift
	Numbers of gears, forward – reverse	3 – 3	3 – 3
Alternator	Type – power (W)	AC – 1960	AC – 1960
Starting battery	Voltage – capacity (V – Ah)	2×12 – 140	2×12 – 140
Driving axle	Type	Kessler D81 – Diffrential and hub reduction	Kessler D81 – Diffrential and hub reduction

DCE150-6			DCE100-12			DCE120-12			DCE150-12			DCE160-6			DCE160-9			DCE160-12			DCE180-6		
•	••	•••	•	••	•••	•	••	•••	•	••	•••	•	••	•••	•	••	•••	•	••	•••	•	••	•••
0,45	0,40	0,40	0,50	0,4	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
0,35	0,35	0,35	0,45	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35
0,40	0,40	0,40	0,40	0,4	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
0,40	0,40	0,40	0,40	0,4	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
28	28	28	28	28	29	28	28	28	27	27	28	27	27	28	27	27	28	27	27	28	27	27	28
78	62	>120	87	68	>120	79	63	107	67	54	86	83	65	113	71	57	93	64	52	83	68	55	89
36	30	44	46	38	57	41	34	49	34	28	41	36	30	43	33	28	40	32	27	39	31	26	37
53	44	66	58	47	73	53	44	67	46	39	57	55	46	70	49	40	60	45	38	56	47	39	58
27	22	32	33	28	40	30	25	36	25	21	30	26	22	31	25	21	30	24	20	28	23	19	27
124	107	145	124	107	145	124	107	145	124	107	145	124	107	145	124	107	145	124	107	145	124	107	145
73	73	74	73	73	74	73	73	74	73	73	74	73	73	74	73	73	74	73	73	74	73	73	74
85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85
78	78	79	78	78	79	78	78	79	78	78	79	78	78	79	78	78	79	78	78	79	78	78	79
108	108	110	108	108	110	108	108	110	108	108	110	108	108	110	108	108	110	108	108	110	108	108	110

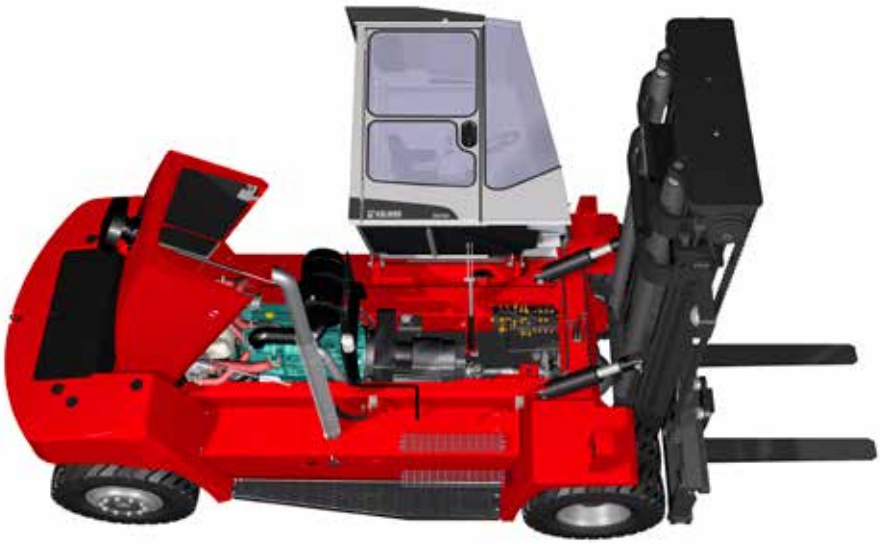
DCE150-6		DCE100-12		DCE120-12		DCE150-12		DCE160-6		DCE160-9		DCE160-12		DCE180-6	
•	••	•	••	•	••	•	••	•	••	•	••	•	••	•	••
0,45	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35
0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
28	32	28	32	28	31	27	31	27	31	27	31	27	31	27	31
61	89	67	101	62	90	55	78	64	95	58	83	52	72	56	80
30	40	38	51	33	45	28	38	30	39	28	37	27	35	26	35
43	64	47	71	44	65	39	57	45	67	41	61	37	54	40	59
22	31	28	40	25	35	21	30	22	31	21	30	20	28	19	27
100	133	100	133	100	133	100	133	100	133	100	133	100	133	100	133
75	74	75	74	75	74	75	74	75	74	75	74	75	74	75	74
85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85
79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111

A quality machine for optimum overall economy

Reducing operating costs

The Kalmar 9 – 18 range consists of a series of models that have been designed in every aspect to provide long life with minimum downtime. This has been achieved by using technical solutions and components, but not subjecting the truck to built in stresses that result in unnecessary wear and higher costs.

Optimised chassis modules, frames, dynamic stability, electronically controlled power trains, wet disc brakes, more reliable and more efficient hydraulic systems, smart options such as variable piston pumps or opti rev, and last but not least, an unbelievable driving experience. It is the entire package that determines the quality.



Greater service intervals

Service intervals for the Kalmar 9 – 18 tonne range are only after 500 hours of driving. The longer service interval will reduce the operating cost of the machine – and decrease the service downtime.

Fast service and maintenance

The Kalmar 9 – 18 tonne range has been designed to provide the best possible accessibility. Tilting the cabin and opening the engine cover exposes the entire power train with easy accessibility to all vital components and service points.

Daily inspection

Daily inspections must be simple and easy to carry out. All check points for daily inspection are directly accessible at ground level under the engine cover on the side of the truck. It can all be done in just a few minutes.

Opti rev – lower noise level, reduced fuel consumption and lower emissions

The system, which is patented, reduces noise and keeps fuel consumption to a minimum during lifting sequences in the operating cycle by optimising the engine revolutions compared to the weight of the load, deflection of the mast and the machine speed at the time. The intelligent and microprocessor-controlled opti rev system is variable and installed in parallel with the standard hydraulic system.

All hydraulic hoses are fitted with ORFS-couplings.

Daily inspection is simple and can be performed from ground level.

The air filter is easily accessible under the bonnett.

Parts and service

The final piece that makes the DCE90-180 a pre-eminent team player is parts & service. Kalmar has a truly comprehensive program of service for ownership, rental, and much more.

All machines will need parts and service sooner or later and there is no difference ....with Kalmar products. What differentiates us and our products is the excellent after market support. We are well prepared with warehouses in all continents and local distribution centres for parts through either sales companies or dealers. Kalmar's long experience and global presence provide excellent customer service all around the globe.

Kalmar DCE at work

The Kalmar DCE90-180 range is versatile and is proven to be effective for an array of applications around the world. A few examples of these many uses include:

- Wood, Pulp & Paper
- Ports & Stevedoring
- Concrete, Brick & Stone
- Steel, Metal and Engineering
- Automotive
- Mining
- Etc.

Safety and the environment

The Kalmar DCE90-180 is CE marked, its construction complies with the following standards:

- The Machinery Directive 98/37/EC
- The EMC Directive 89/336/EC
- The Noise Emission Directive 2005/88/EC
- The Exhaust Gas Directive 2004/26/EC

Global presence and local service bring our products and solutions closer to our customer.

Cargotec *improves the efficiency of cargo flows on land and at sea – wherever cargo is on the move. Cargotec's daughter brands Hiab, Kalmar and MacGregor are recognised leaders in cargo and load handling solutions around the world. Cargotec's global network is positioned close to customers and offers extensive services that ensure the continuous, reliable and sustainable performance of equipment. Cargotec's class B shares are quoted on the NASDAQ OMX Helsinki. www.cargotec.com*

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