KALMAR

MAKING YOUR EVERY MOVE COUNT

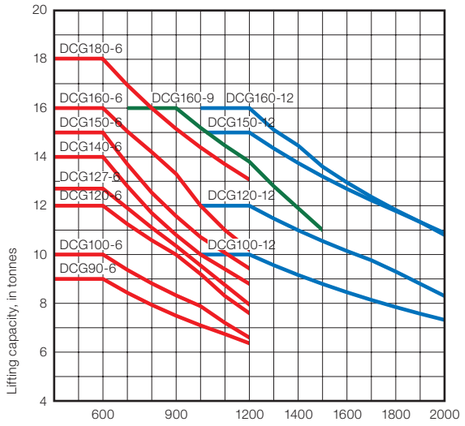
Kalmar offers the widest range of cargo handling solutions and services to ports, terminals, distribution centres and to heavy industry. Kalmar is the industry forerunner in terminal automation and in energy efficient container handling, with one in four container movements around the globe being handled by a Kalmar solution. Through its extensive product portfolio, global service network and ability to enable a seamless integration of different terminal processes, Kalmar improves the efficiency of every move. **www.kalmarglobal.com**

Kalmar is part of Cargotec. Cargotec's sales totalled approximately EUR 3.2 billion in 2013 and it employs approximately 11,000 people. Cargotec's class B shares are quoted on NASDAQ OMX Helsinki under symbol CGCBV. **www.cargotec.com**

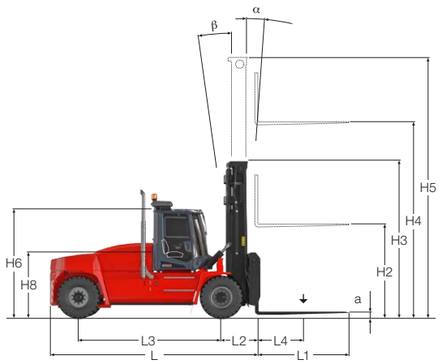
Cargotec Sweden AB
Torggatan 3
SE-340 10, Lidhult, Sweden
tel. +46 372 260 10
fax +46 372 263 90

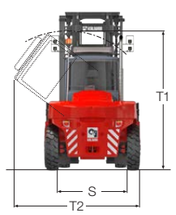
SB-LTG33-EN-WW / 2016.01.14

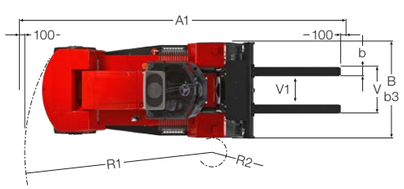
Technical information



DCG90-6 to DCG180-6 models:
Full lifting capacity up to 5000 mm lift height with duplex/duplex freelift/triplex masts and integrated sideshift/fork positioning carriage.







				DCG 90-6	DCG 100-6	DCG 120-6	DCG 127-6	DCG 140-6	DCG 150-6	DCG 100-12	DCG 120-12	DCG 150-12	DCG 160-6	DCG 160-9	DCG 160-12	DCG 180-6	DCG 70-35 E3	DCG 70-35 E4
MAIN DATA	**Model designation**			DCG 90-6	DCG 100-6	DCG 120-6	DCG 127-6	DCG 140-6	DCG 150-6	DCG 100-12	DCG 120-12	DCG 150-12	DCG 160-6	DCG 160-9	DCG 160-12	DCG 180-6	DCG 70-35 E3	DCG 70-35 E4
	Power source			Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
	Rated capacity / rated load	kg		9000	10000	12000	12700	14000	15000	10000	12000	15000	16000	16000	16000	18000	7000	7000
	Load center distance	mm	L4	600	600	600	600	600	600	1200	1200	1200	600	900	1200	600	1220	1220
	Load distance, center of drive axle to fork	mm	L2	895	895	900	900	910	980	990	990	1000	980	990	1000	990	1265	1265
	Wheelbase	mm	L3	2800	3000	3000	3000	3250	3250	3250	3500	3500	3500	3500	3750	3250	3500	3500
WEIGHTS	**Service weight**	kg		15200	156000	16200	16700	16900	19800	18600	19700	22300	19200	21200	22400	21600	22900	23900
	Axle loading, loaded front	kg		7800	8100	8300	8300	8400	10300	10000	10100	10200	10200	10200	10500	10300	14700	15600
	Axle loading, loaded rear	kg		21700	23100	26500	27350	28900	32650	26700	29600	34600	34800	34800	35800	37100	27100	27600
	Axle loading, unloaded front	kg		7400	7500	7900	8400	8500	9500	8600	9600	12000	11000	11000	11900	11300	8200	8300
	Axle loading, unloaded rear	kg		2500	2500	1900	2050	2000	2150	1900	2100	2600	2400	2400	2600	2500	2800	3300
WHEELS	**Type, front / rear**			Pneumatic / Pneumatic														
	Tyre size, front	inch		11,00×20/16PR			12,00×20/20PR									12,00×20/20PR HD	12,00×20/20PR	
	Tyre size, rear	inch		11,00×20/16PR			12,00×20/20PR									12,00×20/20PR HD	12,00×20/20PR	
	Number of wheels, front / rear (x = driven wheels)			4x / 2	4x / 2	4x / 2	4x / 2	4x / 2	4x / 2	4x / 2	4x / 2	4x / 2	4x / 2	4x / 2	4x / 2	4x / 2	4x / 2	4x / 2
	Track width, front / rear	mm	S	1840 / 1960	1840 / 1960	1840 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	1855 / 1960	2210 / 1960
	Tyre pressure	MPa		0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	1,0	1,0	1,0	0,9	0,9
DIMENSIONS	**Mast tilt, α = forward / β = backward**	°	α / β	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	3 / 5	3 / 5
	Height of mast lowered	mm	H3	4015	4015	4015	4035	4035	4195	4195	4195	4195	4195	4195	4195	4195	5195	7075
	Lift height	mm	H4	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	7000	10000
	Height of mast extended	mm	H5	6515	6515	6515	6515	6515	6515	6515	6515	6515	6515	6515	6515	6515	8695	12075
	Truck height – EGO / OHG cabin roof	mm	H6	2895	2895	2895	2920	2920	2920	2920	2920	2920	2920	2920	2920	2920	2920	2920
	Seat height	mm	H8	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770
	Height when tilting EGO cab / OHG	mm	T1	3370	3370	3370	3395	3395	3395	3395	3395	3395	3395	3395	3395	3395	3395	3395
	Width when tilting EGO cab / OHG	mm	T2	3350	3350	3350	3380	3380	3380	3380	3380	3380	3380	3380	3380	3380	3380	3380
	Truck length (to face of forks)	mm	L	4470	4720	4725	4725	4985	5055	5065	5315	5325	5305	5315	5575	5065	5595	5845
	Truck width	mm	B	2480	2480	2480	2480	2480	2540	2540	2540	2540	2540	2540	2540	2540	2540	2900
	Fork dimensions, width	mm	b	200	200	200	200	200	200	220	220	250	200	220	250	220	6064	6064
	Fork dimensions, thickness	mm	a	65	65	70	70	80	80	90	90	100	80	90	100	90	2120	2120
	Fork dimensions, length of fork arm	mm	l	1200	1200	1200	1200	1200	1200	2400	2400	2400	1200	1800	2400	1200	–	–
	Fork carriage width	mm	b3	2450	2450	2450	2450	2450	2500	2500	2500	2500	2500	2500	2500	2500	2450	2450
	Width over fork arms, minimum / maximum	mm	V	2330 / 570	2330 / 570	2330 / 570	2330 / 570	2330 / 570	2360 / 600	2360 / 640	2360 / 640	2360 / 700	2360 / 600	2360 / 640	2360 / 700	2360 / 640	–	–
	Sideshift ± @ width over forks	mm	V1 / V	440 / 1450	440 / 1450	440 / 1450	440 / 1450	440 / 1450	440 / 1480	430 / 1500	430 / 1500	430 / 1530	440 / 1480	430 / 1500	415 / 1530	430 / 1500	140	140
	Ground clearance, laden, below mast	mm		250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
	Ground clearance, machine	mm		330	330	330	330	350	350	350	350	350	350	350	350	350	350	350
	Min. ailse width for 90° stacking with forks	mm	A1	6240	6470	6475	6475	6665	6735	7945	8370	8380	7160	8160	8770	6745	8900 / 13800	9200 / 13900
	Turning radius	mm	R1	3950	4180	4180	4180	4360	4360	4360	4785	4785	4785	4785	5175	4570	4360	4785
	Internal turning radius	mm	R2	75	75	75	75	125	125	125	420	420	420	420	600	270	125	420
OTHERS	**Operating pressure for hydraulics**	MPa		16,0	17,0	17,5	18,0	19,0	16,5	12,5	15,0	17,0	17,0	17,5	18,0	19,0	19,5	20,0
	Hydraulic oil tank, capacity	l		215	220	220	220	220	220	220	220	220	220	220	220	220	220	220
	Fuel tank, capacity	l		152	170	170	170	170	170	170	170	170	170	170	170	170	170	170
	AdBlue tank, capacity	l		15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Drive train and performance

			Volvo TAD871 VE ZF 3WG171 (185 kW)	Volvo TAD572 VE ZF 3WG171 (160 kW)
ENGINE	**Manufacturer's type designation**		Volvo TAD871VE (Turbo-Intercooler)	Volvo TAD572VE (Turbo-Intercooler)
	Fuel, type of engine		Diesel, 4-stroke	Diesel, 4-stroke
	Rating ISO 3046 / at revs	**kW / rpm**	185/252 / 2200	160/218 / 2300
	Peak torque ISO 3046 / at revs	**Nm / rpm**	1160 / 1200	910 / 1200
	Number of cylinders / displacement	**cm³**	6 / 7700	4 / 5100
	Fuel consumption, normal driving	**l/h**	8-10	7-9
	AdBlue consumption, normal driving	**% of diesel**	3-5	3-5
	Emission standard		Stage IV / Tier 4 final	Stage IV / Tier 4 final
GEARBOX & MISC	**Manufacturer's type designation**		ZF 3WG171	ZF 3WG171
	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 / 3640	AC / 3080
	Starting battery, voltage / capacity	**V / Ah**	2×12 / 150	2×12 / 150
	Driving axle, manufacturer / type		Kessler D81 / Differential and hub reduction	Kessler D81 / Differential and hub reduction

			Cummins QSB6,7 ZF 3WG171 (168 kW)	Cummins QSB6,7 ZF 3WG161 (129 kW)
ENGINE	**Manufacturer's 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**	168/228 / 2200	129/176 / 2200
	Peak torque ISO 3046 / at revs	**Nm / rpm**	949 / 1500	800 / 1400
	Number of cylinders / displacement	**cm³**	6 / 6702	6 / 6702
	Fuel consumption, normal driving	**l/h**	7-9	8-10
	AdBlue consumption, normal driving	**% of diesel**	3-5	3-5 / N/A
	Emission standard		Stage IV / Tier 4 final	Stage IV & IIIA
GEARBOX & MISC	**Manufacturer's type designation**		ZF 3WG171	ZF 3WG161
	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 / 1680
	Starting battery, voltage / capacity	**V / Ah**	2×12 / 150	2×12 / 150
	Driving axle, manufacturer / type		Kessler D81 / Differential and hub reduction	Kessler D81 / Differential and hub reduction

PERFORMANCE, VOLVO TAD871 VE

		DCG 90-6	DCG 100-6	DCG 120-6	DCG 127-6	DCG 140-6	DCG 150-6	DCG 100-12	DCG 120-12	DCG 150-12	DCG 160-6	DCG 160-9	DCG 160-12	DCG 180-6
Lifting speed	**Unloaded (m/s)**	–	–	–	–	–	–	–	0,40	0,40	0,40	0,40	0,40	–
	At rated load (m/s)	–	–	–	–	–	–	–	0,35	0,35	0,35	0,35	0,35	–
Lowering speed	**Unloaded (m/s)**	–	–	–	–	–	–	–	0,30	0,30	0,30	0,30	0,30	–
	At rated load (m/s)	–	–	–	–	–	–	–	0,40	0,40	0,40	0,40	0,40	–
Travelling speed, F/R	**Unloaded (km/h)**	–	–	–	–	–	–	–	30	30	30	30	30	–
	At rated load (km/h)	–	–	–	–	–	–	–	29	29	29	29	29	–
Gradeability, max.	**Unloaded (%)**	–	–	–	–	–	–	–	105	83	111	91	82	–
	At rated load (%)	–	–	–	–	–	–	–	50	41	44	41	40	–
Gradeability, at 2 km/h	**Unloaded (%)**	–	–	–	–	–	–	–	84	69	88	75	69	–
	At rated load (%)	–	–	–	–	–	–	–	43	36	38	36	35	–
Drawbar pull	**Max. (kN)**	–	–	–	–	–	–	–	140	140	140	140	140	–
Noise level, inside	**LpAZ*, EGO cabin (dB(A))**	–	–	–	–	–	–	–	71	71	71	71	71	–
	LpAZ*, EGO cabin OHG (dB(A))	–	–	–	–	–	–	–	83	83	83	83	83	–
Noise level, outside	**LWA** (dB(A))**	–	–	–	–	–	–	–	107	107	107	107	107	–

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

PERFORMANCE, VOLVO TAD572 VE

		DCG 90-6	DCG 100-6	DCG 120-6	DCG 127-6	DCG 140-6	DCG 150-6	DCG 100-12	DCG 120-12	DCG 150-12	DCG 160-6	DCG 160-9	DCG 160-12	DCG 180-6
Lifting speed	**Unloaded (m/s)**	0,50	0,50	0,40	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)	0,45	0,45	0,35	0,35	0,35	0,35	0,35	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	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	0,40	0,40	0,40
Travelling speed, F/R	**Unloaded (km/h)**	29	29	29	29	29	29	29	29	29	29	29	29	29
	At rated load (km/h)	28	28	27	28	28	28	28	28	27	27	27	27	27
Gradeability, max.	**Unloaded (%)**	>120	>120	>120	114	111	82	91	83	68	86	73	68	71
	At rated load (%)	63	59	52	47	44	39	49	43	36	38	36	35	33
Gradeability, at 2 km/h	**Unloaded (%)**	103	98	91	82	81	63	69	64	54	66	58	54	56
	At rated load (%)	50	47	42	39	37	32	40	35	30	32	30	29	28
Drawbar pull	**Max. (kN)**	127	127	127	123	123	123	123	123	123	123	123	123	123
Noise level, inside	**LpAZ*, EGO cabin (dB(A))**	71	71	71	71	71	71	71	71	71	71	71	71	71
	LpAZ*, EGO cabin OHG (dB(A))	83	83	83	83	83	83	83	83	83	83	83	83	83
Noise level, outside	**LWA** (dB(A))**	109	109	109	109	109	109	109	109	109	109	109	109	109

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

PERFORMANCE, CUMMINS QSB6,7

		DCG 90-6	DCG 100-6	DCG 120-6	DCG 127-6	DCG 140-6	DCG 150-6	DCG 100-12	DCG 120-12	DCG 150-12	DCG 160-6	DCG 160-9	DCG 160-12	DCG 180-6
Lifting speed	**Unloaded (m/s)**	–	0,50	0,40	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)	–	0,45	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35
Lowering speed	**Unloaded (m/s)**	–	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30	0,30
	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	0,40	0,40
Travelling speed, F/R	**Unloaded (km/h)**	–	29	29	30	30	30	30	30	30	30	30	30	30
	At rated load (km/h)	–	27	27	28	28	27	28	28	27	27	27	27	27
Gradeability, max.	**Unloaded (%)**	–	>120	>120	118	115	84	94	85	70	89	75	69	73
	At rated load (%)	–	60	53	48	45	39	50	44	36	39	36	35	34
Gradeability, at 2 km/h	**Unloaded (%)**	–	88	82	75	73	58	64	59	50	61	53	50	52
	At rated load (%)	–	44	39	36	34	30	37	33	28	30	28	27	26
Drawbar pull	**Max. (kN)**	–	129	129	125	125	125	125	125	125	125	125	125	125
Noise level, inside	**LpAZ*, EGO cabin (dB(A))**	–	73	71	71	71	71	71	71	71	71	71	71	71
	LpAZ*, EGO cabin OHG (dB(A))	–	83	83	83	83	83	83	83	83	83	83	83	83
Noise level, outside	**LWA** (dB(A))**	–	108	108	108	108	108	108	108	108	108	108	108	108

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

PERFORMANCE, CUMMINS QSB6,7

		DCG 90-6	DCG 100-6	DCG 120-6	DCG 127-6	DCG 140-6	DCG 150-6	DCG 100-12	DCG 120-12	DCG 150-12	DCG 160-6	DCG 160-9	DCG 160-12	DCG 180-6
Lifting speed	**Unloaded (m/s)**	0,50	0,50	0,40	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)	0,45	0,45	0,35	0,35	0,35	0,35	0,35	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	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	0,40	0,40	0,40
Travelling speed, F/R	**Unloaded (km/h)**	29	29	29	29	29	29	29	29	29	29	29	29	29
	At rated load (km/h)	28	28	27	28	28	28	28	28	27	27	27	27	27
Gradeability, max.	**Unloaded (%)**	>120	>120	>120	107	104	78	87	79	65	82	70	65	68
	At rated load (%)	–	57	50	45	43	37	47	41	34	37	34	33	32
Gradeability, at 2 km/h	**Unloaded (%)**	–	97	91	79	78	61	67	62	52	64	56	52	54
	At rated load (%)	–	47	41	37	35	31	39	34	29	30	29	28	27
Drawbar pull	**Max. (kN)**	109	109	109	104	104	104	104	104	104	104	104	104	104
Noise level, inside	**LpAZ*, EGO cabin (dB(A))**	73	73	73	73	73	73	73	73	73	73	73	73	73
	LpAZ*, EGO cabin OHG (dB(A))	85	85	85	85	85	85	85	85	85	85	85	85	85
Noise level, outside	**LWA** (dB(A))**	108	108	108	108	108	108	108	108	108	108	108	108	108

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

Lifting equipment

Here is how the DCG90-180 helps drivers optimise lifting efficiency and save fuel – at the same time. To begin with, its new electric and hydraulic systems mean quicker response, high lifting speed and increased control. Meanwhile, new load sensing hydraulic pumps improve fuel efficiency. Operating together, this combination improves productivity and saves fuel – every lift.

As lifting equipment plays a vital role in the performance of any forklift, it is important yours match your individual requirements and applications. For instance, careful consideration should be made to factors such as lift height, clearance, free lift, carriage flexibility, etc. in order to optimise operations.

Kalmar offer you a complete range of standard and custom lifting equipment – carriage, fork shaft, forks, levelling, etc – and options to suit your specific lifting and cargo handling requirements.

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
	DCG90-140*			DCG100-180**		
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	–
4500	3765	6015	–	3945	6195	–
5000	4015	6515	–	4195	6695	–
5500	4265	7015	–	4445	7195	–
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
	DCG90-140*			DCG100-180**		
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
4500	3765	6015	2250	3945	6195	2250
5000	4015	6515	2500	4195	6695	2500
5500	4265	7015	2750	4445	7195	2750
6000	4515	7515	3000	4695	7695	3000
6500	4765	8015	3250	4945	8195	3250
7000	5015	8515	3500	5195	8695	3500

TRIPLEX FFL, CW

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
	DCG90-140*			DCG100-180**		
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

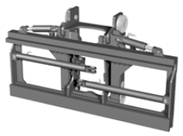
+25 mm on H3 and H5 on the DCG140
* DCG90-140-6
** DCG150-180-6, DCG160-9, DCG100-160-12

Duplex standard, free visibility

Duplex full free lift, free visibility

Triplex full free lift, free visibility

Fixed for manually moveable forks



Centre levelling

Fork positioning and sideshift

Sideshift

Forks for manual adjustment

Fork shaft system with separate carriers for each fork

Roller fittings for hydraulic adjustment

Hydraulic levelling

Notes