Kalmar Heavy Forklifts DCG180-330

18 – 33 tonne capacity

KALMAR

A vital part of your logistics

No chain is stronger than its weakest link, as the saying goes. Nothing could be more true when it comes to managing heavy or bulky components between the key stages of the logistic value chain. On or off ships or trains. Between the foundry and the factory. From assembly to transportation.

This is the domain of the heavy forklift truck. No other piece of machinery matches a forklift's combination of raw strength, mobility and versatility. But it's a tough job.

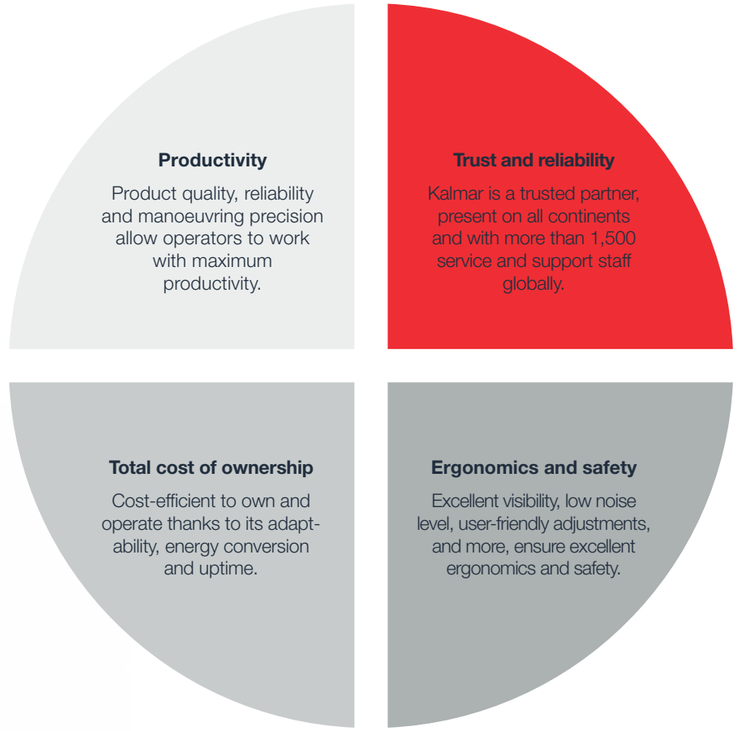
The sheer weight of thousands of tonnes lifted each day wears the mechanics and the materials. Yet the forklift must perform flawlessly every day of the week. Reliably, productively, safely.

Your forklift is a vital part of your logistics or production. In seamless interaction with a skilled operator, the forklift must meet your – and your customer's – demands of product quality and delivery precision, throughout your terminal, factory or assembly line.

Looking at your forklifts in this light, the choice of brand will come naturally. Only the best is good enough. Kalmar is equally renowned for its robust and reliable product quality as for its global service network and supreme customer support.

Heavy forklift trucks are Kalmar territory since 1949 – making your material handling the strongest link in the logistic value chain.

4 good reasons to choose Kalmar



It is no surprise that customer survey results coincide with Kalmar core values. After all, we listen attentively to customers when designing and developing our forklifts. Looking at the big picture, adding up things that truly matter, it will always pay off to choose Kalmar.

Designed for maximum productivity

Your Kalmar forklift will always deliver what your operations require. With Performance mode activated, operators will have the power necessary to go all-in at every instant and work with maximum productivity. Pushing it hard, while ensuring best-in-class fine-manoeuvring.

Our Cummins and Volvo engines are powerful, yet highly fuel efficient. All engine alternatives are compliant with emission standard Stage IV/Tier 4 Final.

The variable pumps automatically sense the load in every operation and adjust the oil flow accordingly, allowing for faster lifting cycles up to 40% while reducing fuel consumption. **This will improve your productivity a lot depending on number of lift cycles.**

Many operators testify to the forklift's improved operational capabilities, especially when fine manoeuvring, such as side-shift and fork positioning. Also, the lowering speed has been increased, preparing the machine faster for the next lift.

Drive modes

Choose between three different drive modes, each optimised to meet your operational requirements. The forklift can be adapted to every task at hand, shifting many times during the day. The operator easily shifts between modes by using the cabin display screen.

Power

Brings out maximum performance of your machine, allowing you to increase the number of tonnes moved per hour.

Normal

Balances power and economy to optimise profitability.

Economy

If total cost of operations outweighs the need for performance, Economy mode reduces fuel consumption by up to 15%.

** DCG180-250, lift/lowering speed compared to DCF180-250.*

Reducing lifetime costs

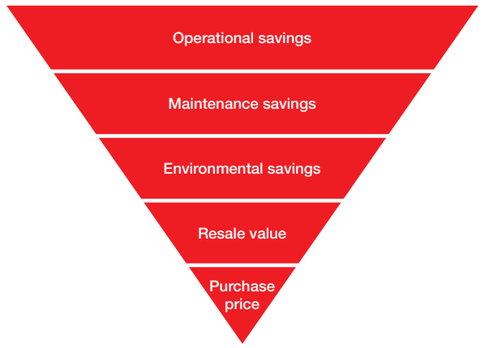
Purchase price is only one of many factors affecting total cost of ownership. In fact, price is a minor cost factor looking over the lifetime of your forklift. What truly matters in the long run is cost control and operational efficiency – and that will show clearly on your bottom line.

Compared to our previous model, the new DCG180-330 uses up to 15% less fuel* in standard configuration. Add Kalmar's renowned product quality and reliability, increasing efficiency and uptime, and you see the true value of Kalmar.

The forklift's variable pumps and fan are automatically adjusted to the precise need. The pumps and the fan are only operated at full speed when necessary, reducing fuel consumption and noise. Another cost saving feature is Economy mode, an engine setting available to the operator from within the cabin, which lowers fuel consumption even more.

Thanks to improved and more durable components, service intervals have been extended. The first service is due after 500 hours, compared to 50 hours for our previous model.

The risk of unplanned standstills has been reduced due to intelligent error detection built into the new control system, which accurately pinpoints potential problems in clear text on a display in the cabin.



Lifetime savings

Purchase price represents only a small part of the total cost of ownership. What matters in the long run is reducing operational and maintenance costs. And that is what Kalmar is all about.

** Compared to Kalmar DCF180-330 with Stage IIIB engine.*

Cost saving features

Fuel-efficient engine

The new Stage IV/Tier 4 Final compliant engines reduce fuel consumption by up to **5%***.

Economy drive mode

Using Economy drive mode, fuel consumption is reduced by up to **15%**.

Energy efficient systems

Optimized variable hydraulic system and variable cooling fan allows for savings up to **10%**.

Increased uptime

Longer service intervals and improved problem detection reduce downtime.

Total lifetime savings

Adding all energy saving features, savings up to **30%** are possible.

Prioritizing safety and operator ergonomics

Safety always comes first. Kalmar makes every effort to guarantee that our machines are safe to operate at every worksite around the world. We spend extensive R&D resources to ensure the driver's environment in the cabin is optimal regarding ergonomics, visibility and noise.

First introduced in 2011, our Ego cabin offers the ultimate in ergonomics and safety. Numerous electronically operated adjustments allow the operator to tailor his workplace. The curved windows, which greatly improve visibility, have already become a classic with Kalmar.

The wheel is tiltable sideways, allowing the operator to temporarily change his visual angle, to see around bulky load in front of him. A new 300 mm lower carriage, available with the DCG180–250 versions, further improves visibility in the forward direction.

The operator console is the operator's extended arm, easy to understand, use and adjust. Designed for maximum ergonomics and flexibility, the console puts controls, switches and indicators within easy reach to the operator, ensuring the most efficient forklift operation possible.

Keeping you operational at all times

Kalmar offers extensive service and support packages, available to you wherever your operation may be located. As part of a world-wide industrial group, Kalmar is better positioned than most other forklift manufacturers to provide a truly global service.

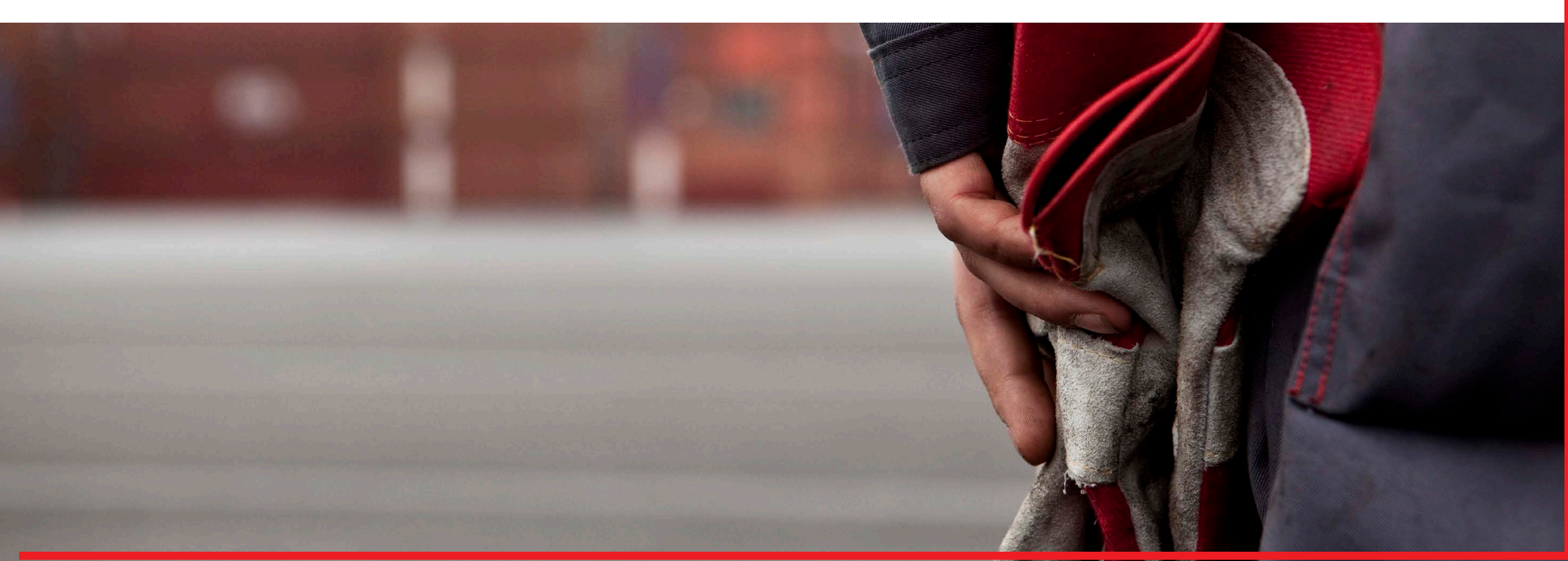
Besides forklifts, Kalmar offers reachstackers, terminal tractors, empty container handlers and other types of terminal equipment. Therefore, we have more people in the field ready to provide fast assistance, whenever you need it.

Supporting you also means simplifying the use of our products – in terms of serviceability, service accessibility and error prevention.

Our main concern is to keep you operational at all times, reducing the risk of unplanned downtime.

The DCG180–330 is the fourth machine to be released from Kalmar's G-generation. Service engineers are familiar with the concept, allowing them to reuse skills and knowledge thus simplifying service. The new and intelligent control system ensures that operators are alerted as soon as something is wrong, or even risks becoming a problem. This means that many faults can be eliminated before they arise.

Precisely narrowing down a problem also simplifies service and repairs, reducing downtime and putting you back in operation faster.

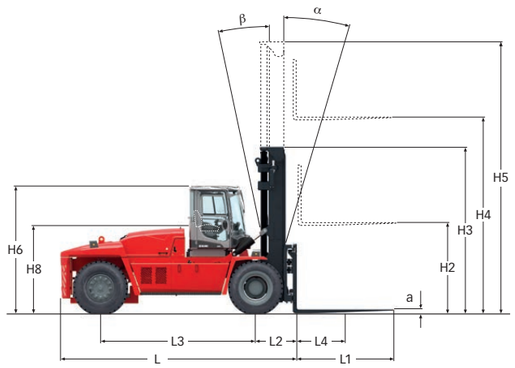


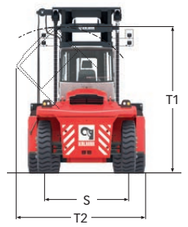
Dimensions

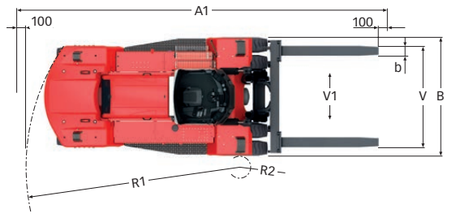
Model designation

DCG180-12LB

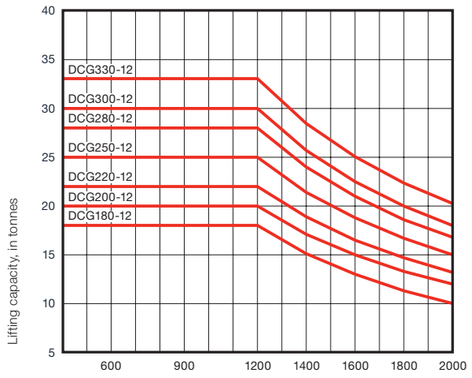
- Diesel engine
- Counterbalance truck
- Generation
- Lifting capacity, in decitonnes
- Load centre, in decimetres
- Low built tilt cylinders







Lifting capacity in tonnes



Load centre, mm

DCG180-250: Full lifting capacity up to 7000 mm lift height with duplex/duplex freelift masts, integrated sideshift/fork positioning carriage and forkshaft system.

DCG280-330: Full lifting capacity up to 7000 mm lift height with duplex/duplex freelift masts, integrated sideshift/fork positioning carriage and forkshaft system.

				DCG180-12LB	DCG200-12LB	DCG220-12LB	DCG250-12LB	DCG280-12LB	DCG300-12LB	DCG330-12LB
MAIN DATA	Model designation			DCG180-12LB	DCG200-12LB	DCG220-12LB	DCG250-12LB	DCG280-12LB	DCG300-12LB	DCG330-12LB
	Power source			Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
	Rated capacity / rated load	kg		18000	20000	22000	25000	28000	30000	33000
	Load center distance	mm	L4	1200	1200	1200	1200	1200	1200	1200
	Load distance, center of drive axle to fork	mm	L2	1070	1070	1070	1070	1125	1125	1125
	Wheelbase	mm	L3	4000	4000	4000	4250	4750	4750	4750
WEIGHTS	Service weight	kg		28500	29800	31200	32900	38300	39500	41500
	Axle loading, loaded front	kg		15000	15000	15000	15500	20500	20500	20500
	Axle loading, loaded rear	kg		43200	46300	49500	53800	61700	64900	68800
	Axle loading, unloaded front	kg		13500	14800	16200	17400	17800	19000	21000
	Axle loading, unloaded rear	kg		3300	3500	3700	4100	4100	4300	4800
WHEELS	Type, front / rear			Pneumatic / Pneumatic						
	Tyre size, front	inch		14.00×24	14.00×24	14.00×24	14.00×24	16.00×25	16.00×25	16.00×25
	Tyre size, rear	inch		14.00×24	14.00×24	14.00×24	14.00×24	16.00×25	16.00×25	16.00×25
	Number of wheels, front / rear (x = driven wheels)			4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2	4* – 2
	Track width, front / rear	mm	S	2200 / 2140	2200 / 2140	2200 / 2140	2200 / 2140	2540 / 2440	2540 / 2440	2540 / 2440
	Tyre pressure	MPa		1,0	1,0	1,0	1,0	1,0	1,0	1,0
DIMENSIONS	Mast tilt, α = forward / β = backward	°	α / β	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10	5 / 10
	Height of mast lowered	mm	H3	4320	4320	4320	4320	4520	4520	4520
	Lift height	mm	H4	5000	5000	5000	5000	5000	5000	5000
	Height of mast extended	mm	H5	6820	6820	6820	6820	7020	7020	7020
	Truck height – EGO / OHG cabin roof	mm	H6	3270	3270	3300	3270	3415	3415	3415
	Seat height	mm	H8	2150	2150	2350	2150	2300	2300	2300
	Height when tilting EGO cab / OHG	mm	T1	3800	3800	3800	3800	3800	3800	3800
	Width when tilting EGO cab / OHG	mm	T2	3700	3700	3700	3700	3800	3800	3800
	Truck length (to face of forks)	mm	L	6090	6090	6090	6340	6925	6925	6925
	Truck width	mm	B	3050	3050	3050	3050	3430	3430	3430
	Fork dimensions, width	mm	b	250	250	250	250	300	300	300
	Fork dimensions, thickness	mm	a	110	110	110	110	110	110	110
	Fork dimensions, length of fork arm	mm	l	2400	2400	2400	2400	2400	2400	2400
	Fork carriage width	mm	b3							
	Width over fork arms, minimum / maximum	mm	V	2700 / 800	2700 / 800	2700 / 800	2700 / 800	3150 / 850	3150 / 850	3150 / 850
	Sideshift ± @ width over forks	mm	V1 / V	557 / 1585	557 / 1585	557 / 1585	557 / 1585	575 / 2000	575 / 2000	575 / 2000
	Ground clearance, laden, below mast	mm		-	-	-	-	-	-	-
	Ground clearance, machine	mm		300	300	300	300	300	300	300
	Min. ailse width for 90° stacking with forks	mm	A1	9270	9270	9270	9550	10325	10325	10325
	Turning radius	mm	R1	5600	5600	5600	5875	6600	6600	6600
	Internal turning radius	mm	R2	425	425	425	550	950	950	950
OTHERS	Operating pressure for hydraulics	MPa		16,5	18,0	20,0	22,0	19,5	20,5	22,0
	Hydraulic oil tank, capacity	l		330	330	330	330	330	330	330
	Fuel tank, capacity	l		300	300	300	375	450	450	450
	AdBlue tank, capacity	l		35	35	35	35	35	35	35

Drive train and performance

			DCG180-250LB	DCG280-330LB
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	164* – 168** / 2200	194* – 194** / 2200
	Peak torque ISO 3046 / at revs	Nm / rpm	949 / 1500	990 / 1500
	Number of cylinders / displacement	cm³	6 / 6702	6 / 6702
	Fuel consumption, normal driving	l/h	9-11	13-15
	AdBlue consumption, normal driving	% of diesel	-* – 3-5**	-* – 3-5**
	Emission standard		Stage III* – Stage IV**	Stage III* – Stage IV**
GEARBOX & MISC	Manufacturer's type designation		Dana TE17000	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 / 145	2×12 / 145
	Driving axle, manufacturer / type		Kessler D91 / Differential and hub reduction	AxleTech / Differential and hub reduction

* Cummins QSB6,7 Stage III does not require AdBlue.

			DCG 180-12LB	DCG 200-12LB	DCG 220-12LB	DCG 250-12LB	DCG 280-12LB	DCG 300-12LB	DCG 330-12LB
PERFORMANCE, CUMMINS QSB6,7	Lifting speed	Unloaded (m/s)	0,33	0,33	0,33	0,33	0,35	0,35	0,35
		At rated load (m/s)	0,32	0,32	0,32	0,32	0,33	0,33	0,33
	Lowering speed	Unloaded (m/s)	0,38	0,38	0,38	0,38	0,38	0,38	0,38
		At rated load (m/s)	0,38	0,38	0,38	0,38	0,38	0,38	0,38
	Travelling speed, F / R	Unloaded (km/h)	27 / 27	27 / 27	27 / 27	27 / 27	27 / 27	27 / 27	27 / 27
		At rated load (km/h)	26 / 26	26 / 26	26 / 26	26 / 26	25 / 25	25 / 25	25 / 25
	Gradeability, max.	Unloaded (%)	74	69	65	60	67	64	60
		At rated load (%)	38	35	32	29	33	31	29
	Gradeability, at 2 km/h	Unloaded (%)	51	48	44	41	48	46	43
		At rated load (%)	28	26	24	22	24	23	21
	Drawbar pull	Max. (kN)	173	173	173	173	218	218	218
	Noise level, inside	LpAZ*, EGO cabin (dB(A))	72	72	72	72	73	73	73
		LpAZ*, EGO cabin OHG (dB(A))	109	109	109	109	110	110	110
	Noise level, outside	LWA** (dB(A))							

* Noise level according to EN12053 ** Noise level according to 2000/14/EC

			DCG180-250LB	DCG280-330LB
ENGINE	Manufacturer's type designation		Volvo TAD 871VE (Turbo-Intercooler)	Volvo TAD 871VE (Turbo-Intercooler)
	Fuel, type of engine		Diesel, 4-stroke	Diesel, 4-stroke
	Rating ISO 3046 / at revs	kW / rpm	185 / 2200	185 / 2200
	Peak torque ISO 3046 / at revs	Nm / rpm	1160 / 1200	1160 / 1200
	Number of cylinders / displacement	cm³	6 / 7700	6 / 7700
	Fuel consumption, normal driving	l/h	8-11	12-14
	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		Dana TE17000	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 / 3080	AC / 3080
	Starting battery, voltage / capacity	V / Ah	2×12 / 145	2×12 / 145
	Driving axle, manufacturer / type		Kessler D91 / Differential and hub reduction	AxleTech / Differential and hub reduction

			DCG 180-12LB	DCG 200-12LB	DCG 220-12LB	DCG 250-12LB	DCG 280-12LB	DCG 300-12LB	DCG 330-12LB
PERFORMANCE, VOLVO TAD 871VE	Lifting speed	Unloaded (m/s)	0,33	0,33	0,33	0,33	0,35	0,35	0,35
		At rated load (m/s)	0,32	0,32	0,32	0,32	0,33	0,33	0,33
	Lowering speed	Unloaded (m/s)	0,38	0,38	0,38	0,38	0,38	0,38	0,38
		At rated load (m/s)	0,38	0,38	0,38	0,38	0,38	0,38	0,38
	Travelling speed, F / R	Unloaded (km/h)	24 / 24	24 / 24	24 / 24	24 / 24	24 / 24	24 / 24	24 / 24
		At rated load (km/h)	23 / 23	23 / 23	23 / 23	23 / 23	23 / 23	23 / 23	23 / 23
	Gradeability, max.	Unloaded (%)	74	69	65	60	65	62	58
		At rated load (%)	38	35	32	29	32	30	28
	Gradeability, at 2 km/h	Unloaded (%)	51	48	44	41	43	41	39
		At rated load (%)	28	26	24	22	24	22	21
	Drawbar pull	Max. (kN)	173	173	173	173	213	213	213
	Noise level, inside	LpAZ*, EGO cabin (dB(A))	72	72	72	72	73	73	73
		LpAZ*, EGO cabin OHG (dB(A))	109	109	109	109	110	110	110
	Noise level, outside	LWA** (dB(A))							

* Noise level according to EN12053 ** Noise level according to 2000/14/EC

Lifting equipment

We offer a full range of duplex, triplex and free-lift equipment. Based on our long tradition as a supplier of heavy forklifts, our lifting equipment is robust and of the highest quality.

	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
			DCG180-250			DCG280-330	
DUPLEX STD	3500			–			
	4000	3820	5820	–	4020	6020	–
	4500	4070	6320	–	4270	6520	–
	5000	4320	6820	–	4520	7020	–
	5500	4570	7320	–	4770	7520	–
	6000	4820	7820	–	5020	8020	–
	6500	5070	8320	–	5270	8520	–
	7000	5320	8820	–	5520	9020	–

	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
			DCG180-250			DCG280-330	
DUPLEX FFL	3500						
	4000	3920	5920	2000	4020	6020	2000
	4500	4170	6420	2250	4270	6520	2250
	5000	4420	6920	2500	4520	7020	2500
	5500	4670	7420	2750	4770	7520	2750
	6000				5020	8020	3000

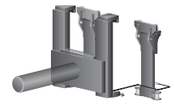
	Lift height H4	Mast height H3 min	Mast height H5 max	Free lift H2	Mast height H3 min	Mast height H5 max	Free lift H2
			DCG180-250			DCG280-330	
TRI.	5150	3700	6950	1900			
	5900				4220*	8150*	2080

** Might be slightly reduced if smallest available tyres are chosen.*

Carriage sideshift / fork positioning

Carriage with kissing forks for steel handling

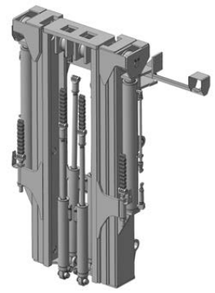
Fork shaft system (Hook on type or roller type)



Coil ram

Duplex standard

Duplex free lift



Triplex full free lift

Standard equipment

Chassis/Body
- Towing pin
- Steps with anti slip protection
- Rear view mirror left and right side mounted on front mudguards
- Strong and protective mudguards

Cabin
- EGO Cabin
- Clear and tempered panes of safety glass, thickness 6 mm
- Std seat incl. 2-point belt with (orange).
- Clear windows incl. sliding windows in left and right door.
- Complete doors with locks left and right side.
- Complete manouevre system right hand console incl. light controls, toggle wheel for display, levers for load handling system (electric adjustable, 2-way´s.)
- Multi function lever left side incl. horn, turn signal.
- Brake system with pedal left and right side.
- Internal comfort incl. mirror, handles, interior lighting etc.
- Wiper and washers front/rear and roof window.
- Hydraulic steering system incl. electrically adjustable steering wheel in height-, manually adjustable laterally and longitudinally with steering wheel knob.
- External reverse lights.
- Cab tilting
- Instep handle, left side
- Automatic heat and ventilation (ECH) with fresh air inlet filter.
- Speed control pedal right side.
- Kalmar std Key system.
- Cup holder
- Coat hook
- Colour display:
  - Fuel level, indicator.
  - Engine, transmission temperature.
  - Oil pressure engine.
  - Battery voltage.
  - Clock and date.
  - Hour meter.
  - Service time indicator.
  - Speed.
  - Engine speed (RPM).
  - Various information via pop-up.
  - AdBlue indicator

Steering system
- Steering axel Kalmar, including double acting steering cylinder.

Drivetrain
- Driveaxle DCG180-250: Kessler
DCG280-330: Axletech

Hydraulics
- Electrical servo
- Level sight glass on hydraulic oil tank
- Variable pumps
- High pressure filter
- Automatic raised engine rpm when load handling function is used
- Tilt angels std 5F/10B

Electric system
- Electrical system 24 V,
- Rear lights and brake lights, LED.
- Working lights on front mudguards, LED.
- Working light mast 2 pcs.
- Indicator lamps incl. hazard lights, LED..
- Main power switch

Wheels
- Continental
DCG180-250 14.00x24
DCG280-330 16.00x25

Color
- Cab: frame RAL 7011/70”, covers ”RAL 7021/10”
- Chassis: Kalmar Red 2012 (Base ref.RAL 3000/75)
- Lifting equipment: Kalmar Black (Base ref.RAL 7021/30)

Documentation & decals
- Operators manual
- Maintenance manual
- Parts catalouge
- Load diagram in cab
- Warning decals
- Information decals
- Diagram, fuses
- Noise plate (legal requirement in EU/EEC)

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**

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