

# Big challenges made easy.

Kalmar Heavy Forklifts.  
DCG380-540



# Make light work of heavy loads.

Our new range of heavy forklifts can handle loads of 38 to 54 tonnes with ease.

They have been built to deliver on power and performance - yet designed to feel as agile and smooth to operate as a much smaller machine. No matter what you are lifting in your foundry, factory, terminal or assembly line, the new Kalmar Heavy Forklift will do it efficiently, effectively and safely.

## **Easier to specify the solution you need.**

We understand that your heavy lifting needs are unique to your business, which is why we offer a range of three different wheelbases with two width options so you can choose the combination that works best for your business. There are also a range of masts and attachments to choose from, a simplex mast when you need to operate with restricted head height and duplex and triplex masts when you need to lift your load higher.

## **Easier to maintain.**

With a tiltable cabin, engine hatches instead of a hood, and easily accessible service points, your new heavy forklift will be quicker and easier to maintain. Saving you time and money.

There is also a range of Kalmar Care Service and Maintenance packages that can be tailored to your specific needs to help keep your forklift operating at its best.



## **Improved lifting.**

With a wider carriage with full side shift and fork positioning, you will be able to handle a broader variety of loads a lot easier.



#### **Steel Industry.**

Our heavy forklift is able to lift heavy metal coils easily when fitted with a coil ram, allowing you to move coils quicker and more efficiently around the foundry. It is also able to handle a range of heavy steel slabs and pipes.



#### **Wind Industry.**

Our new heavy forklifts, when working in tandem, will be able to lift, shift and load wind tower sections that weight in up to 100 tonnes. To lift sections in excess of 100 tonnes you may want to consider our Super Heavy Forklift, when working in tandem it can lift loads in excess of 100 tonnes.



#### **Heavy Industry.**

Flat, round or bulky – our new heavy forklift, with a wide range of lifting attachments, will be able to handle all of your heavy lifting needs up to 54 tons.



Shorter wheelbase models are available for operating in limited space.

# A common platform to make things easier.

Built on our proven G-Generation platform you can expect your new heavy forklift to be easier to operate, handle heavy loads and with common diagnostics you can identify and solve issues quickly.

## Easier to operate.

Our G-Generation of forklifts all benefit from the same operating environment and controls, making it easier for your drivers to switch between Kalmar machines.

## Easier to lift heavy loads.

All of our heavy forklifts come fitted with a variable hydraulic lifting system, which applies exactly the right amount of power to handle your load based on its weight.

## Easier to solve issues.

With common control and electrical systems you will be able to identify and trouble shoot any issues easily. Getting the issues solved quicker, means you will achieve a much higher utilisation rate with your new machine.

## Improved lifting and lowering rates.

The speed at which you can move materials around your yard impacts your entire business, which is why we have improved the lifting and lowering rates of our heavy forklift over the previous generation.

		DCG380-450	DCG480-540
Lifting Speed	Unloaded (m/s)	0.34	0.28
	At 80% rated load (m/s)	0.32	0.26
Lowering Speed	Unloaded (m/s)	0.42	0.35
	At rated load (m/s)	0.50	0.40
Travelling Speed F/R	Unloaded (km/h)	27/20	27/20
	At 80% rated load (km/h)	27/18	25/18
Drawbar pull	Max. (kN)	350	310

## Enhanced cooling system.

Our heavy forklifts now come fitted with a reversible cooling fan that can help keep your radiator clean and operating effectively in dirty or dusty environments.



## A focus on safety.

To keep your drivers and colleagues safe we have introduced a number of new safety features.

Your drivers will now be safer entering or exiting their forklift, as there are more handrails and bars, plus all the climbing surfaces are non-slip. There are also steps on the right-hand side that can be used to enter or exit the cabin in emergencies. Our EGO cabin provides improved visibility both forwards and backwards and there are a number of additional safety options to make your machine even safer.



# Easy to operate.

Our new heavy forklift comes fitted with our ergonomically designed EGO cabin, which provides a superior operating experience for your drivers. With its smart functions and a more intuitive workspace, your drivers will be able to operate at their most productive every day, with ease.

## Easier to see.

A-posts have been replaced with slim B-posts, to provide greater visibility in all directions: forwards, backwards, to the side and upwards. Our combined roof/front wiper system cleans a bigger area of the front windscreen and the transparent roof than before, making sure your forward and upwards view stays extra clean and clear at all times.

## Easier to operate.

With levers or a new joystick, electronically adjustable work console and side tilt steering wheel, the controls are all designed to minimise driver fatigue and maximise operational efficiency.

## Easy on your drivers.

With an adjustable driver's seat, a new fault safe pedal system and climate control system with smarter controls, your operator will benefit from improved ventilation, heating and cooling, plus a cabin with superior interior comfort.

## Easily smarter by far.

Our user interface combines sight, sound and touch to create a perfectly balanced operating environment with a new colour display at its heart. Advanced diagnostics allows for greater operational control and safety.



## Easy on your pocket.

The initial price of your new forklift is only part of the total running cost of your machine. What really matters is being able to reduce these costs without compromising on the productivity of your new machine, which is why our heavy forklift comes with numerous costs saving features.

Up to 5% reduction in fuel costs from our range of highly efficient engines, which are EU Stage 4 or Stage 5 emissions standards compliant.

Save up to **5%** in fuel costs

Up to 10% reduction in fuel costs from our variable hydraulic systems and cooling fans which adjust their effort to the load being moved.

Save up to **10%** in fuel costs

Up to 25% reduction in fuel with economy drive mode when using ECO-Drive.

Save up to **25%** in fuel costs

## Save up to 10% in fuel costs.



Up to 10% reduction in fuel costs with a HTE lock-up gearbox as standard, which uses the power your engine produces more effectively.



# Choose your own upgrade options.



## **Reverse Warning System (RWS).**

Knowing what's going on behind you is critical when other personnel are present. Four rear sensors and a reversing camera relay real-time information to an in-cabin display, alerting the driver to any dangers, increasing personnel and driver safety.



**Heat Protection Package.** To protect your machine and operator from extreme heat generated in foundries, where molten metal can reach 2000°C. All hoses in the mast and carriage are heat protected and an extra windshield is fitted to protect the cabin from splashes from the vat.



**Alco-Lock.** To ensure your driver is at their best when operating your equipment you can install an Alco-Lock system. This system makes sure that the driver meets alcohol blood level standards before being able to start the machine, much like a breathalyser.



**Reversible Engine Fan.** If your forklift needs to operate in a dirty and dusty environment then a reversible fan can help keep your driveline cleaner and operating optimally.



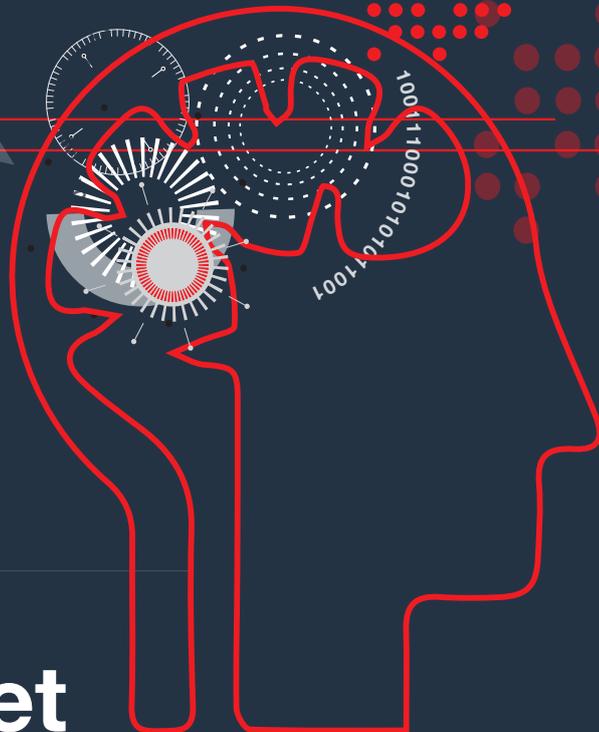
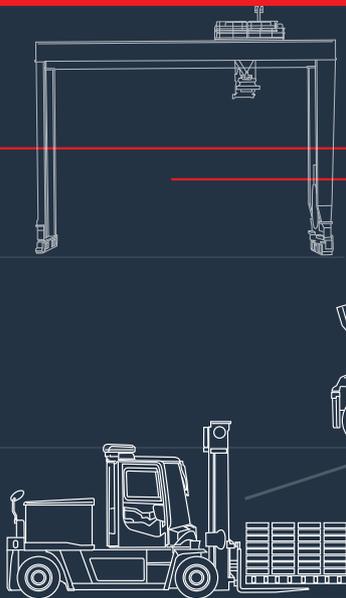
**Reverse Beeper System.** When your staff are working side-by-side with moving vehicles there is always a safety risk. Installing a reverse beeper system provides a clear acoustic alert when the machine is reversing so personnel can make sure they stay out of harm's way at all times.



**Tyre Pressure Monitoring System.** Helps to reduce wear and tear on tyres which results in reduced fuel consumption. Bluetooth sensors keep the driver advised of the condition of the tyres at all times. Active care of your tyres can result in a 10-40% increase in tyre life and up to a 10% decrease in fuel consumption.



**Additional lighting.** If you have to operate your machine at night, extra lighting can bring greater operational visibility and safety for personnel. You can choose additional LED working lamps on your cabin roof, on the mast or placed at the front or rear of your forklift.

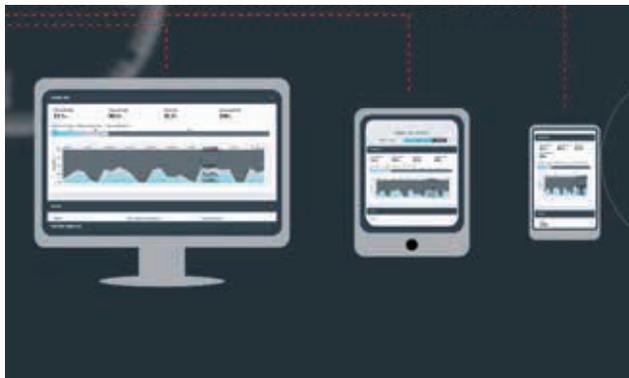


# Improve your fleet performance.

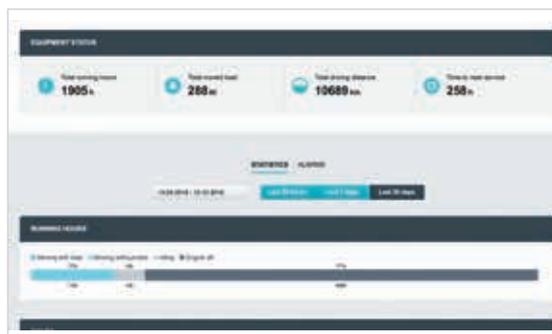
## Optimise your forklift with Kalmar Insight.

Kalmar Insight is a performance management tool for cargo and material handling, which gives you a valuable and easy to use overview of your daily operations based on equipment status and performance. Making it quicker for you to take action on relevant information that will help you improve your operations, your equipment's performance and your business.

Kalmar Insight\* comes fitted in all new Kalmar machines and can be retrofitted to existing Kalmar machines or those built by other manufacturers.



Access on mobile, tablet or traditional screen.



\*Installation costs and/or an annual subscription fee may apply.

# All the support you need.

Our job doesn't stop once we deliver your new forklift truck. We also offer a range of support services that help to keep your new equipment running at its optimal best. With a global network of over 1500 service and support staff in 120 countries, we will always have someone nearby to give you the support you need.





# Making sure your business never stops.

We can offer you four different types of service and maintenance contracts, for any brand of equipment. Each is designed to help you improve your operational efficiency, drive productivity and secure financial predictability. Each contract type includes a set of standardised service modules that you can tailor to meet your business needs. Here is an overview of the four different levels:

## The four flexible types of service contracts.

### Kalmar Support Care

We support your maintenance processes on demand.

- Availability of competent people with the right tools and parts
- Additional of skills to existing maintenance organisation.

### Kalmar Essential Care

We perform your agreed maintenance tasks proactively.

- Availability of competent people with the right tools and parts
- Higher degree of financial predictability
- Reduced operational risk to customer
- Improved availability of machines.

### Kalmar Complete Care

We meet your complete maintenance requirements.

- Improved predictive maintenance
- Low operational risk to customer
- Reduced equipment downtime
- Reduced total cost of operation
- Increased operational predictability.

### Kalmar Optimal Care

We optimise your business performance.

- Guaranteed availability
- Reduced tied-in capital
- Improved business performance
- Increased peace of mind.

## Kalmar Genuine Parts.

### When the right part matters.

When something needs to be replaced you need a spare part that meets your exact needs – urgently. Kalmar offers a rapid delivery service for over 50,000 premium-quality genuine parts to anywhere in the world, with installation support if needed. You may also want to consider outsourcing all or part of your spare parts management and inventory control. Kalmar Parts Care makes sure critical spare parts are always on hand so your equipment downtime is kept to a minimum. Each Kalmar Parts Care plan is based on your individual needs, so talk to us today and see how we can lift your parts availability, while reducing your inventory costs.

## Financing options for you.

### Lease or rent.

You may choose to buy your new forklift truck outright or consider leasing or renting your equipment. Kalmar offers a range of leasing and renting options that give you the financial predictability you need and the option to upgrade your equipment after a fixed period. With our leasing packages you can focus on your core operations, while we perform all the service and maintenance needs required by your equipment. Kalmar can also assist you in trading in or re-selling your old equipment. No matter what your service and support needs are, make sure that you speak to your local Kalmar team first.

## Kalmar Training Centre.

Our training centre offers a range of courses for both your technicians and operators. Technicians will be given the knowledge that they need to maintain your new equipment in top condition. Operators will be shown how to get more from their equipment. They will learn how to improve the efficiency of their driving and what needs to be checked daily before operating. Courses are a mix of theory and hands-on experience and can be held at Kalmar or at your site.

# Performance.

		DCG380-12S	DCG380-12	DCG420-12S	
PERFORMANCE, VOLVO TAD1181 VE	<b>Lifting speed</b>	Unloaded (m/s)	0.34	0.34	0.34
		At 80 % of rated load (m/s)	0.32	0.32	0.32
	<b>Lowering speed</b>	Unloaded (m/s)	0.42	0.42	0.42
		At rated load (m/s)	0.50	0.50	0.50
	<b>Travelling speed,</b>	Unloaded (km/h)	27 / 20	27 / 20	27 / 20
		At rated load (km/h)	27 / 18	27 / 18	20 / 18
	<b>Gradeability, max.</b>	Unloaded (%)	96	104	88
		At rated load (%)	43	44	40
	<b>Gradeability, at 2 km/h</b>	Unloaded (%)	58	61	54
		At rated load (%)	30	31	28
	<b>Drawbar pull</b>	Max. (kN)	350	350	350
	<b>Noise level, inside</b>	LpAZ*, Essential cabin (dB(A))	75	75	75
LpAZ*, Essential cabin OHG (dB(A))		–	–	–	
<b>Noise level, outside</b>	LWA** (dB(A))	112	112	112	

# Drivetrains.

		DCG380-540	DCG380-540	DCG380-540	
ENGINE	<b>Manufacturer's type designation</b>	Volvo TAD 1181VE (Turbo-Intercooler)	Volvo TAD 1171VE (Turbo-Intercooler)	Volvo TAD 1151VE (Turbo-Intercooler)	
	<b>Fuel, type of engine</b>	Diesel, 4-stroke			
	<b>Rating ISO 3046 / at revs</b>	kW / rpm	265 / 1448-2100		
	<b>Peak torque ISO 3046 / at revs</b>	Nm / rpm	1785 / 1400	1785 / 1260	1785 / 1260
	<b>Number of cylinders / displacement</b>	cm <sup>3</sup>	6 / 10800		
	<b>Fuel consumption, normal driving</b>	l/h	17-20		
	<b>AdBlue consumption, normal driving</b>	% of diesel	4-6	3-5	N/A
	<b>Emission standard</b>		Stage V	EU Stage IV/ US EPA Tier 4f	EU Stage IIIA/ US EPA Tier 3
GEARBOX & MISC	<b>Manufacturer's type designation</b>	Dana TE30500			
	<b>Clutch, type</b>	Torque converter with lock-up			
	<b>Gearbox, type</b>	Hydrodynamic Powershift			
	<b>Numbers of gears, forward / reverse</b>	5 / 3			
	<b>Alternator, type / power</b>	W	AC / 3080		
	<b>Starting battery, voltage / capacity</b>	V / Ah	2×12 / 145		
	<b>Driving axle, manufacturer / type</b>	Kessler D102 / Differential and hub reduction			

DCG420-12	DCG450-12S	DCG450-12	DCG480-12S	DCG480-12	DCG520-12	DCG540-12
0.34	0.34	0.34	0.28	0.28	0.28	0.28
0.32	0.32	0.32	0.26	0.26	0.26	0.26
0.42	0.42	0.42	0.35	0.35	0.35	0.35
0.50	0.50	0.50	0.4	0.4	0.4	0.40
27 / 20	27 / 20	27 / 20	27 / 20	27 / 20	27 / 20	27 / 20
22 / 18	15 / 15	17 / 17	25 / 18	25 / 18	25 / 18	25 / 18
95	83	89	59	62	59	58
41	37	38	30	30	29	28
57	52	55	40	41	40	39
28	26	27	21	21	20	20
350	350	350	312	312	312	312
75	75	75	75	75	75	75
-	-	-	-	-	-	-
112	112	112	112	112	112	112

## Lifting equipment.

	Lift height	Mast height		Free lift	Mast height		Free lift
	H4	H3 min	H5 max	H2	H3 min	H5 max	H2
	<b>DCG380-450</b>			<b>DCG480-540</b>			
<b>DUPLEX STANDARD</b>	3500			-			
	4000	4550	6550	-	5100	7100	-
	4500	4800	7050	-	5350	7600	-
	5000	5050	7550	-	5600	8100	-
	5500	5300	8050	-	5850	8600	-
	6000	5550	8550	-	6100	9100	-
	6500	5800	9050	-	6350	9600	-
	7000	6050	9550	-	6600	10100	-
<b>DUPLEX FFL</b>	3500	Available on request					
	4000						
	4500						
	5000						
	5500						
	6000						
<b>TRI.</b>	Available on request						
<b>SIMP.</b>	Available on request						

# Dimensions.

			DCG380-12S	DCG380-12	DCG420-12S	
MAIN DATA	Model designation		DCG380-12S	DCG380-12	DCG420-12S	
	Power source		Diesel	Diesel	Diesel	
	Rated capacity / rated load	kg	38000	38000	42000	
	Load center distance	mm	L4	1200		
	Load distance, center of drive axle to fork	mm	L2	1305		
Wheelbase	mm	L3	5000	5500	5000	
WEIGHTS	Service weight	kg	51400	49400	53900	
	Axle loading, unloaded front	kg	26400	26700	26400	
	Axle loading, loaded front	kg	83400	82000	89400	
	Axle loading, unloaded rear	kg	25000	22700	27500	
	Axle loading, loaded rear	kg	6000	5400	6500	
WHEELS	Type, front / rear		Pneumatic / Pneumatic			
	Tyre size, front	inch	18.00x25			
	Tyre size, rear	inch	18.00x25			
	Number of wheels, front / rear (x = driven wheels)		4* - 2			
	Track width, front / rear	mm	S	3030 / 2625		
	Tyre pressure	MPa	1.0			
DIMENSIONS	Mast tilt, $\vartheta$ = forward / $\beta$ = backward	°	$\vartheta$ / $\beta$	5 / 10		
	Height of mast lowered	mm	H3	5050		
	Lift height	mm	H4	5000		
	Height of mast extended	mm	H5	7550		
	Truck height – EGO / OHG cabin roof	mm	H6	3550		
	Seat height	mm	H8	2500		
	Height when tilting EGO cab / OHG	mm	T1	4000		
	Width when tilting EGO cab / OHG	mm	T2	4200		
	Truck length (to face of forks)	mm	L	7300	7800	7300
	Truck width	mm	B	4150		
	Fork dimensions, width	mm	b	300		
	Fork dimensions, thickness	mm	a	135		
	Fork dimensions, length of fork arm	mm	l	2400		
	Fork carriage width	mm	b3	3700		
	Width over fork arms, minimum / maximum	mm	V	3350 / 950		
	Sideshift ± @ width over forks	mm	V1 / V	700 / 1950		
	Ground clearance, laden, below mast	mm		270		
	Ground clearance, machine	mm		240		
	Min. aisle width for 90° stacking with forks	mm	A1	10805	11305	10805
	Turning radius	mm	R1	6900	7400	6900
Internal turning radius	mm	R2	1000	1100	1000	
OTHERS	Operating pressure for hydraulics	MPa	19.5	19.5	21	
	Hydraulic oil tank, capacity	l	600			
	Fuel tank, capacity	l	450			
	AdBlue tank, capacity	l	35			

1. 4 + 2 pneumatic / diagonal tyres
2. Depending on ECO Drive Mode setting

DCG420-12	DCG450-12S	DCG450-12	DCG480-12S	DCG480-12	DCG520-12	DCG540-12
DCG420-12	DCG450-12S	DCG450-12	DCG480-12S	DCG480-12	DCG520-12	DCG540-12
Diesel						
42000	45000	45000	48000	48000	52000	54000
			1200			
1305	1305	1305	1430	1430	1430	1430
5500	5000	5500	5500	6000	6000	6000
51700	55800	53500	61900	59700	62000	63100
26700	26400	26700	32000	32300	32300	32300
87800	93900	92200	103000	101300	107100	110000
25000	29400	26800	29900	27400	29700	30800
5900	6900	6300	6900	6400	6900	7100
18.00×25	18.00×25	18.00×25	18.00×33	18.00×33	18.00×33	18.00×33
18.00×25	18.00×25	18.00×25	18.00×33	18.00×33	18.00×33	18.00×33
4* - 2	4* - 2	4* - 2	4* - 2			
3030 / 2625	3030 / 2625	3030 / 2625	3030 / 2815	3030 / 2815	3030 / 2815	3030 / 2815
			1.0			
			5 / 10			
5050	5050	5050	5600	5600	5600	5600
			5000			
7550	7550	7550	8100	8100	8100	8100
3550	3550	3550	3650	3650	3650	3650
2500	2500	2500	2600	2600	2600	2600
4000	4000	4000	4100	4100	4100	4100
			4200			
7800	7300	7800	8025	8525	8525	8525
			4150			
			300			
135	135	135	145	145	145	145
			2400			
			3700			
3350 / 950	3350 / 950	3350 / 950	3310 / 990	3310 / 990	3310 / 990	3310 / 990
700 / 1950	700 / 1950	700 / 1950	700 / 1910	700 / 1910	700 / 1910	700 / 1910
			270			
240	240	240	300	300	300	300
11305	10805	11305	12180	12680	12680	12680
7400	6900	7400	8150	8650	8650	8650
1100	1000	1100	1100	1200	1200	1200
21	22	22	22	19.5	21	21.5
			600			
			450			
			35			



# KALMAR

Making your every move count

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