

The business machine



Kalmar DCG50-90
5-9 ton capacity



We mean business

The DCG50-90 industrial diesel forklift from Kalmar is a profitable investment. This lightweight machine helps you produce more in less time. And that translates into larger revenues and higher productivity.

But isn't every forklift a profitable investment, regardless of its brand? Isn't a forklift a forklift? Not really, not if you want a machine that will make a noticeable improvement on your business.

Consider your forklift an integral part of your production system, every bit as important as your other machinery. Then you'll conclude you need a machine renowned for its robustness and ability to deliver value.

Kalmar has one big advantage when it comes to manufacturing lightweight industrial forklifts. Unlike most of our competitors, we also have a strong tradition with high-capacity forklifts.

We have put our experiences from these demanding applications into the design of the DCG50-90. There is no better uptime guarantee.

Your forklifts are vital pieces of equipment for your company. So why even consider choosing anything but the best?

Life-cycle cost (LCC)



It's not about purchase price. It's about life cycle cost. Your Kalmar DCG50-90 forklift will reduce your operational costs and service costs. It pays off in the long run.



The bottom line

You should be able to push your forklift hard, shift after shift, without experiencing any technical problems. It's as simple as that, at least in theory. In practice, only Kalmar delivers.

Ruggedness alone is not sufficient though. You also need high operational performance and useful features to work efficiently in the plant. The DCG50-90 delivers the technological excellence required to meet the demands of even the most skilled operators.

Perhaps you may still ask yourself: "How important can it be to choose the very best forklift? Isn't good enough enough? After all, forklift operation is not our core business?"

Productivity and savings

We say, your forklifts are absolutely business critical. Or, at least they should be. If you produce or handle heavy industrial products, you need to ensure your forklifts run smoothly, around the clock. It will show favorably on your bottom line.

A Kalmar forklift delivers, on average, 10 percent higher productivity than our previous model DCF50-90. The difference between finishing eleven

instead of ten lifts in the same time may seem small. But looking over the year – or over the forklift's lifetime – it translates into a lot of money. Just like the 15 percent less fuel consumption, which you will enjoy by operating the forklift in Kalmar's proprietary Eco mode.

Smoother service and higher resale value

Fewer unplanned stoppages, faster maintenance and repairs and longer service intervals combine to increase the forklift's total productive time, while lowering life-cycle costs.

In fact, your DCG50-90 will continue to save you money even after it's through serving you. Like a premium car brand, your Kalmar will have the highest resale value in the forklift market.

Savings potential with the DCG50-90

This example shows how a sawmill (or similar production facility) can save money using Kalmar DCG50-90.



Using the economy engine mode, Eco, reduces fuel consumption by up to 15 percent.

Productivity improvement

+10%

Optimizing the drive train, hydraulic system and electric system together improves productivity by 10 percent compared to the previous generation of Kalmar lightweight forklifts.



Tailored for your production

Your production system consists of many customized machines and systems. Conveyors, hoists, robots – and forklifts – must all be perfectly adapted to your demands. Because every production line is unique.



Four at a time. Kalmar's paper-clamp attachment makes it possible to speed up the handling of paper rolls at Gävle harbor in Sweden.

G-Generation tailoring

Like any other part of your production system, your forklifts need to be customized to your operations. And there are many aspects to consider in order for them to perform optimally. Kalmar is globally renowned for its highly tailored forklifts. The DCG50-90 is no exception. Like its fellow Kalmar G generation machines, it comes with many customizable features.

Industry-specific adaptations

Given our forklifts' excellent adjustability, it's no surprise our customers are found in such diverse industries as paper and pulp, wood, steel, concrete, offshore – just to name a few.

Wide range of attachments

The forklift can be equipped with any lifting equipment your business may require including pipe clamps, multiple-pallet handlers, coilrams or special tools.

Three different performance settings

The driver can optimize the forklift's operational performance depending on the actual need for e.g. low fuel consumption or high power output. All from the comfort of the popular EGO cabin – and by simply toggling a switch during operation.

Tailored operator environment

Customizing your forklift is not just about ordering factory-delivered features. It's also about being able to adapt the driver's operational environment using, for example, adjustable seat, levers and settings. Need we say that no other forklift brand is as adaptable to different driver requirements?

Can we cater for your needs too?

Many of our tailored customer solutions have later been taken up as standard options in our attachment range. After all, you – our customers – know your business best, and we'd be happy to discuss the most suitable attachment solution for your special needs.

"Kalmar's light forklift range has a strong reputation among customers worldwide. It owes much of its acclaim to its adaptability – one of many reasons 87 percent say they'd re-purchase."



Eco mode

Optimizes the forklift for the lowest fuel consumption.

50/50

Normal mode

Balances performance and speed.



Power mode

Optimizes the forklift for maximum speed and performance.

Keeping operators in good shape

Most companies agree that safety and ergonomics are important. But is it really worth the expense to go for the *very best* operator environment? We say: can you afford *not* to care for your operators' well-being?

Even the most advanced forklift is only half a forklift without a healthy and motivated driver. Invest in your operators' wellbeing and you can expect them to perform better, stay healthy and remain loyal to your company. Who wouldn't want that?

Your operators' performance depends directly on their health and safety. Not only as reduced sick leave, but above all as improved productivity. The many ergonomic and safety features implemented in Kalmar's EGO cabin – which comes as standard with the DCG50-90 – allow operators to perform at their best.

Clear view

Stepping into the cabin, you will immediately notice the exceptionally good view diagonally, forward and backward. Curved, and with no side-posts, the large front-view window provides perfect, unobstructed view of the work area. No more constantly changing positions to get a clear view from the cabin.

Electronic control

Levers and controls are made with operator ergonomics and performance in mind. Every feature is electronically operated and adjusted. Take our mini-steering wheel, for example. Maneuvering the forklift with only one finger helps to offload the operator's arms, neck and shoulders. An electric joystick allows for precise control of your attachments, while making lifting easier.

With thousands of lifts every year, features like these ensure good operator health in the long run.

There is also a reverse camera that gives the operator a clear back view. In fact, by choosing our optional rotatable operator seat, you can swing the seat around 180 degrees to be able to always drive in the forward direction.

Along with complete climate control, the many ergonomic features make the EGO cabin a safe and luxurious working environment that can be customized to each driver's needs.

Turnable seat and mini-steering wheel

In tough applications, the operator makes more than 150,000 lifts every year. Just imagine the offloading of neck and shoulders when being able to always drive in the forward direction, or steering the forklift with only your index finger.

Why ergonomics matter

Your forklift lifts more than you think. Here is an estimate of the typical yearly number of lifts in tough 24/7 industrial operations.

Lifts per hour: 25
Lifts per day: 25 x 20 hours = 500 lifts
Lifts per year: 500 x 300 days = 150,000 lifts



Fault diagnosis with pinpoint accuracy

Every machine needs service at regular intervals, and it takes this or that much time to get it fixed. And you simply have to expect unplanned stoppages and try your best to estimate the maintenance costs. Right? Not necessarily.

What if you could avoid costly standstills altogether? Or prolong your service intervals and have the first service after 500 hours? It's possible with the DCG50-90 and any other G-generation machine from Kalmar.

Early alert

The forklift's electric system contains advanced computer technology. Its features include precise diagnostics that informs the operator if there is a problem with the machine.

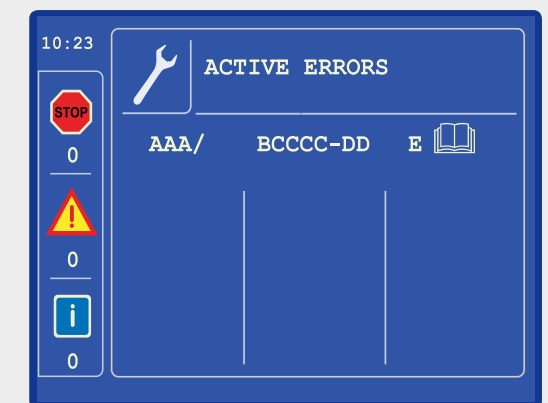
This heads-up alerting system allows the operator to immediately call in service personnel and thus eliminate the problem before it is allowed to cause stoppage and costly downtime.

Fast troubleshooting

What used to take hours of troubleshooting is now instantly presented as an error code in a display. This is made possible by continuously registering operational data in the forklift's control system.

Many times, operators can solve a problem themselves, before it escalates into failure. Repairs are speeded up since the service technician will know about the problem in advance, and can bring the appropriate replacement parts to your site.

If your business machine is even more mission critical than for most companies, Kalmar are also proud to offer an extensive range of leasing and service contracts.



A fault is presented as an error code consisting of device number (marked AAA in the above chart), component number (BCCCC-DD) and type of error (E).

Kalmar Care – Making sure your business never stops

We offer four types of service and maintenance contracts. Each has a set of standardized modules to meet your business's needs. Which level is most suitable for your needs?

Kalmar Support Care

We support your maintenance processes on demand.

- Availability of skilled people with the right tools and parts.
- Added skills to your maintenance organization.

Kalmar Complete Care

We meet your complete maintenance requirements.

- Improved predictive maintenance.
- Lower operational risk for customers.
- Reduced equipment downtime.
- Reduced total cost of operation.
- Increased operational predictability.

Kalmar Essential Care

We perform agreed maintenance tasks proactively.

- Availability of skilled people with the right tools and parts.
- Improved financial predictability.
- Reduced operational risk for customers.
- Improved availability of machines.

Kalmar Optimal Care

We optimize your business performance.

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



The big picture

Say your new premium-class Kalmar DCG50-90 forklifts are now up and running at your plant. Performing superbly, perfectly customized. But how efficiently are they working together?

Just because each individual forklift performs optimally, doesn't mean they are optimized at plant level. If not, your forklift fleet won't perform as expected after all.

Revealing productivity thieves

Perhaps one of your forklifts consistently lifts slightly heavier loads than it was designed to do. Maybe there's a bottleneck in the forklifts' driving patterns? These, and many other, potential productivity thieves will be revealed in detail when you implement Smart Fleet to monitor your forklift operation.

With this monitoring system from Kalmar, you will see the big picture. And that will allow you to make the necessary changes to maximize not only the value of your forklift investment, but of your production system as a whole.

Smart Fleet keeps track of many parameters that may or may not affect your forklifts' productivity. For how long are your machines idle in a day? How many times have they been in shock or overload situations? What routes are they taking to do their tasks?

Improving workplace safety

Smart Fleet data can also help you improve workplace safety. Driving patterns will reveal any dangerous areas where there may be people working or several forklifts passing regularly.

Data is available as real-time information or as statistics, and can be presented as easily interpreted reports. This will prove a powerful tool in helping you analyze how your forklifts are actually used – and what to do to improve your plant's overall efficiency.

Smart Fleet helps you optimize the efficiency of your forklift fleet by registering operational data from each individual machine.

Fuel consumption: 3.92 lit/h
Fuel per load: 0.3 lit/load
Fuel per ton: 0.19 lit/ton
Loads per hour: 12.6 loads/h

Operating time: 7.3 h
Idle time: 2.1 h
Fuel used: 25.6 lit
Distance: 19.1 km

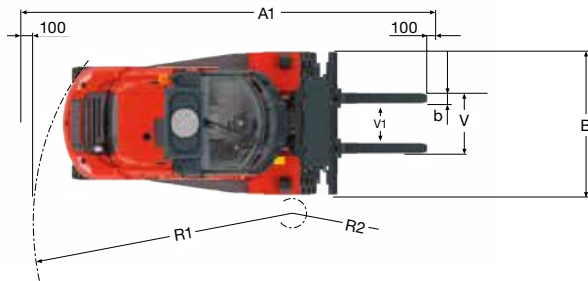
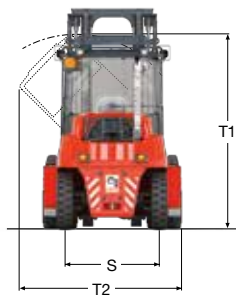
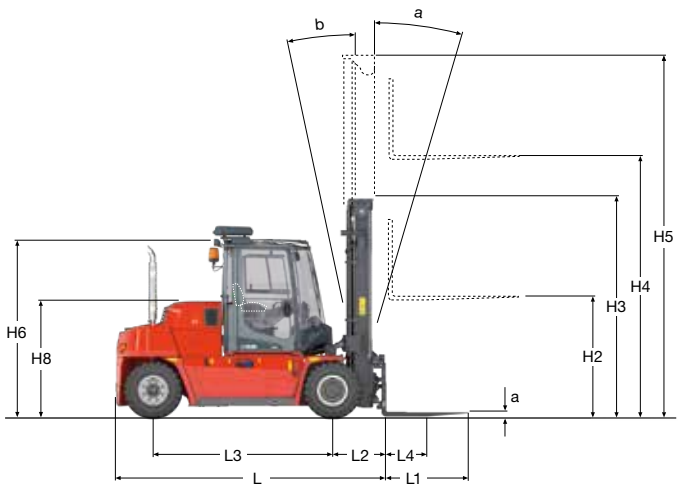
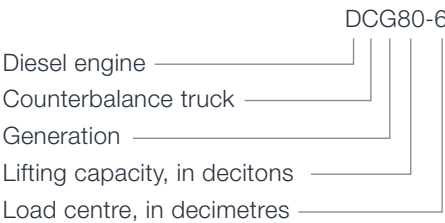
Lifts at 90–100% of capacity: 11
Number of overloads: 12
Number of shocks: 5

Some of the functions in Kalmar's Smart Fleet system:

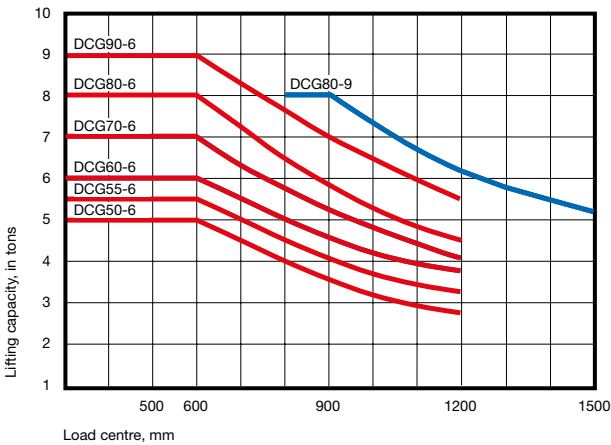
- Real-time data
- Statistics
- Map functions
- Event analyses
- Alarms
- Fuel efficiency
- Report functions
- Service counter

Dimensions

Model designation



Lifting capacity in tons



- Full lifting capacity up to 4 m lifting height with duplex/duplex free lift/triplex mast and fork carriage with side shift/fork positioning. Applies to DCG60-6 to DCG90-6, except for DCG80-9
- Full lifting capacity up to a lift height of 4 m with duplex mast and FEM fork carriage. Only applies to DCG80-9.

MAIN DATA	Model designation	
	Power source	
	Rated capacity / rated load	kg
	Load center distance	mm L4
WEIGHTS	Load distance, center of drive axle to fork	mm L2
	Wheelbase	mm L3
	Service weight	kg
	Axle loading, loaded front	kg
WHEELS	Axle loading, loaded rear	kg
	Axle loading, unloaded front	kg
	Axle loading, unloaded rear	kg
	Type, front / rear	
DIMENSIONS	Tyre size, front	inch
	Tyre size, rear	inch
	Number of wheels, front / rear (x = driven wheels)	
	Track width, front / rear	mm S
OTHERS	Tyre pressure	MPa
	Mast tilt, α = forward / β = backward	° α / β
	Height of mast lowered	mm H3
	Lift height	mm H4
DIMENSIONS	Height of mast extended	mm H5
	Truck height – EGO / OHG cabin roof	mm H6
	Seat height	mm H8
	Height when tilting EGO cab / OHG	mm T1
DIMENSIONS	Width when tilting EGO cab / OHG	mm T2
	Truck length (to face of forks)	mm L
	Truck width	mm B
	Fork dimensions, width	mm b
DIMENSIONS	Fork dimensions, thickness	mm a
	Fork dimensions, length of fork arm	mm l
	Fork carriage width	mm b3
	Width over fork arms, minimum / maximum	mm V
DIMENSIONS	Sideshift $\pm$ @ width over forks	mm V1 / V
	Ground clearance, laden, below mast	mm
	Ground clearance, machine	mm
	Min. aisle width for 90° stacking with forks	mm A1
DIMENSIONS	Turning radius	mm R1
	Internal turning radius	mm R2
OTHERS	Operating pressure for hydraulics	MPa
	Hydraulic oil tank, capacity	l
	Fuel tank, capacity	l
	AdBlue tank, capacity	l

DCG50-6	DCG55-6	DCG60-6	DCG70-6	DCG80-6	DCG80-9	DCG90-6
DCG50-6	DCG55-6	DCG60-6	DCG70-6	DCG80-6	DCG80-9	DCG90-6
Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
5000	5500	6000	7000	8000	8000	9000
600	600	600	600	600	900	600
645	645	710	710	770	740	775
2100	2100	2450	2450	2600	2800	2800
8300	8700	8900	9600	10700	11700	11300
12450	13300	14000	15600	17600	18400	19100
850	900	900	1000	1100	1300	1200
4400	4400	4600	4600	5200	5500	5309
3900	4300	4300	5000	5500	6200	6000
Pneumatic / Pneumatic						
315/70 x 15				8,25x15		
28x9 x 15				8,25x15		
2 / 2	2 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
1240 / 1195	1240 / 1195	1500 / 1360	1500 / 1360	1500 / 1360	1500 / 1360	1500 / 1360
1.0 - 0.9	1.0 - 0.9	0.85 - 0.85	0.85 - 0.85	0.85 - 0.85	1.0 - 0.85	1.0 - 0.85
6 - 9	6 - 9	6 - 9	6 - 9	6 - 9	6 - 9	6 - 9
2625	2625	2625	2625	2935	2935	2935
3500	3500	3500	3500	3500	3500	3500
4500	4500	4500	4500	4660	4660	4660
2570	2570	2570	2570	2570	2570	2570
1620	1620	1620	1620	1620	1620	1620
2970	2970	2970	2970	2970	2970	2970
2990	2990	2990	2990	2990	2990	2990
3285	3285	3700	3700	3915	4085	4120
1550	1550	2000	2000	2000	2000	2000
150	150	150	150	150	200	200
60	60	60	60	60	65	65
1200	1200	1200	1200	1200	1200	1200
1550	1550	2000	2000	2000	2000	2000
1400 - 420	1400 - 420	1900 - 420	1900 - 420	1900 - 420	1900 - 520	1900 - 520
250 - 910	250 - 910	375 - 1160	375 - 1160	375 - 1160	375 - 1210	375 - 1210
170	170	170	170	170	170	170
145	145	145	145	145	145	145
4895	4895	5410	5410	5670	6440	5880
2850	2850	3300	3300	3500	3700	3700
120	120	150	150	250	250	250
14	14,5	15,5	17,5	20	20	21,5
125	125	155	155	155	155	155
90	90	150	150	150	150	150
15	15	15	15	15	15	15

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.

DUPLEX STD	Lift height H4		H3 min		Mast height H5 max		Free lift H2	
	•	••	•	••	•	••	•	••
	–	2750	–	2560	–	3910	–	–
	–	3000	–	2685	–	4160	–	–
	–	3250	–	2810	–	4410	–	–
	3500	3500	2625	2935	4500	4660	–	–
	3750	3750	2750	3060	4750	4910	–	–
	4000	4000	2870	3185	5000	5160	–	–
	4250	4250	3000	3310	5250	5410	–	–
	4500	4500	3120	3435	5500	5660	–	–
DUPLEX FREE LIFT	Lift height H4		H3 min		Mast height H5 max		Free lift H2	
	•	••	•	••	•	••	•	••
	–	2750	–	2560	–	3910	–	1425
	–	3000	–	2685	–	4160	–	1550
	3250	3250	2620	2810	4350	4410	1530	1675
	3500	3500	2750	2935	4600	4660	1655	1800
	3750	3750	2870	3060	4850	4910	1780	1925
	4000	4000	3000	3185	5100	5160	1905	2025
	4250	4250	3120	3310	5350	5410	2030	2175
	4500	4500	3250	3435	5600	5660	2155	2300
TRIPLEX	Lift height H4		H3 min		Mast height H5 max		Free lift H2	
	•	••	•	••	•	••	•	••
	4950	4200	2570	2580	6010	5330	1530	1470
	5450	4700	2740	2750	6515	5825	1690	1640
	5950	5200	2910	2920	7015	6330	1860	1800
	6450	5700	3070	3080	7510	6825	2030	1970
		6200		3250		7330		2140

- DCG50-55H, DCG60-70, DCG60-70H
- DCG80-90, DCG80-90H



Duplex Standard



Duplex Freelif



Triplex

Drive train and performance

ENGINE	AGCO 44 AWF 77kW, with ZF 2WG 94		AGCO 44 AWF 85kW, with ZF 2WG 94		AGCO 44 AWF 77kW, with hydrostatic drive	
	Manufacturer's type designation		AGCO 44 AWF		AGCO 44 AWF	
	Fuel, type of engine		Diesel - 4 - stroke		Diesel - 4 - stroke	
	Rating ISO 3046 / at revs		kW / rpm		77 / 2200	
	Peak torque ISO 3046 / at revs		Nm / rpm		85 / 2200	
	Number of cylinders / displacement		cm³		425 / 1500	
	Fuel consumption, normal driving		l/h		4 / 4400	
	AdBlue consumption, normal driving		% av diesel		5-7	
	Emission standard				3-4	
			Stage 4		Stage 4	
GEARBOX & MISC	Manufacturer's type designation		ZF 2WG 94		Bosch Rexroth MCR10	
	Clutch, type		Torque converter		Torque converter	
	Gearbox, type		Hydrodynamic Powershift		Hydrodynamic Powershift	
	Numbers of gears, forward / reverse		2 - 2		2 - 2	
	Alternator, type / power		W		2400	
	Starting battery, voltage / capacity		V / Ah		24 - 75	
	Driving axle, manufacturer / type				Kessler D41	
					Differential and hub reduction	
					Kessler D41	
					Differential and hub reduction	

PERFORMANCE, AGCO			DCG50-6	DCG55-6	DCG60-6	DCG70-6	DCG80-6	DCG80-9	DCG90-6
	Lifting speed	Unloaded (m/s)	0,37	0,37	0,37	0,37	0,37	0,37	0,37
		At rated load (m/s)							
	Lowering speed	Unloaded (m/s)	0,42	0,42	0,42	0,42	0,42	0,42	0,42
		At rated load (m/s)	0,49	0,49	0,49	0,49	0,49	0,49	0,49
	Travelling speed, F/R	Unloaded (km/h)	22	22	23	23	23	23	23
		At rated load (km/h)	21	21	22	22	22	22	22
	Gradeability, max.	Unloaded (%)	31	29	85	75	63	50	59
		At rated load (%)	20	19	43	38	33	30	30
	Gradeability, at 2 km/h	Unloaded (%)	30	28	70	62	54	43	50

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



Forks for manual adjustment



Roller fittings for hydraulic adjustments



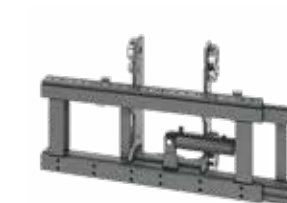
For shaft system



Hydraulic levelling



Fixed for manually moveable forks



Sideshift



Fork positioning and sideshift



Center levelling

Standard

Kalmar DCG50-90

Chassis/Body

- Towing pin
- Steps with anti-slip protection
- Strong and protective mudguards

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 manoeuvre 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 & automatic fault analysis

- Menu control with toggle wheel & push buttons

Operator menu

- System voltage
- Actual gear
- Engine rpm
- Travelling speed (km/h or m/h)
- Hydraulic oil temperature
- Transmission oil temperature
- Engine oil pressure
- Engine coolant temperature
- Clock and date
- Operating time (hours)
- Service time indicator (hours)
- Status of heating system & AC system
- Fuel level (diesel and optional AdBlue)
- Est. operating time before empty tank (hour/min)

Various warning lights & signals

- Charging battery
- Low brake pressure
- Failure indicator
- High engine coolant temperature
- Low engine coolant level (not on Cummins)
- Low engine oil pressure
- Preheating engine
- Transmission oil temperature
- Low fuel level (incl AdBlue)
- Hydraulic oil temperature
- Low washer fluid level

Indicator lamps

- Head beam
- Direction indication
- Parking brake

Steering system

- Steering axel Kalmar, including double acting steering cylinder.

Drivetrain

- Driveaxle: Kessler D41 with wet disc brakes
- Engine: AGCO 44AWF Stage 4 77 and 85 kW
Engine monitoring and protection system
- Gearbox: ZF 2WG94
Declutch function activated by the brake pressure

Hydraulics

- Electrical servo
- Level sight glass on hydraulic oil tank
- Gear 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 light mast 2 pcs.
- Indicator lamps incl. hazard lights, LED.
- Main power switch

Wheels

- Pneumatic
DCG50-55 (Dimensions front- rear (inch) ;
315/70- 15 – 28x9-15
DCG60-90 (Dimensions front- rear (inch); 8,25x15
– 8,25 x 15

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)



