

# KOMATSU

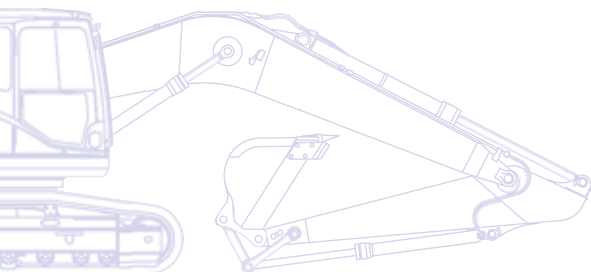


**HB**  
**215LC**

Hydraulic Excavator

**HB215LC-1**

Hybrid



ENGINE POWER  
110 kW / 148 HP @ 2.000 rpm

OPERATING WEIGHT  
21.220 kg

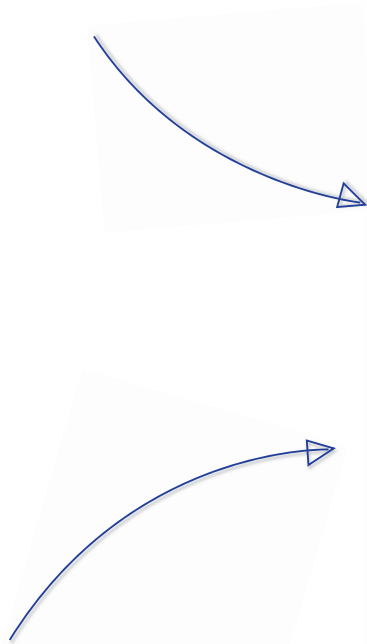
BUCKET CAPACITY  
max. 1,36 m<sup>3</sup>

# Walk-Around

Komatsu is proud to introduce a new generation of hydraulic excavators that focus both on environmental concerns and practical performance. The free energy harnessed by the reliable and durable hybrid components developed and manufactured by Komatsu bring you a powerful and comfortable performance along with the opportunity to reduce your carbon footprint and save fuel. The HB215LC-1 is probably the most reliable and technologically advanced excavator in the industry today. The future of construction equipment starts with Komatsu.

## Quality you can rely on

- Reliable and efficient
- Rugged design
- Komatsu-quality components
- Extensive dealer support network



## Total versatility

- Ideal for high productivity material moving
- 5 working modes
- Built-in versatility

*Photos may include optional equipment.*

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110 kW / 148 HP @ 2.000 rpm

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max. 1,36 m<sup>3</sup>

## First-class operator comfort

- Wide, spacious cab
- Low noise design
- Low vibration levels
- Pressurised cab
- Large, widescreen TFT monitor panel

# Hybrid

## Komatsu Hybrid System

- Electric swing to capture and regenerate energy
- Reliable and durable hybrid system components
- Massive reduction in fuel consumption
- Less CO<sub>2</sub> emissions



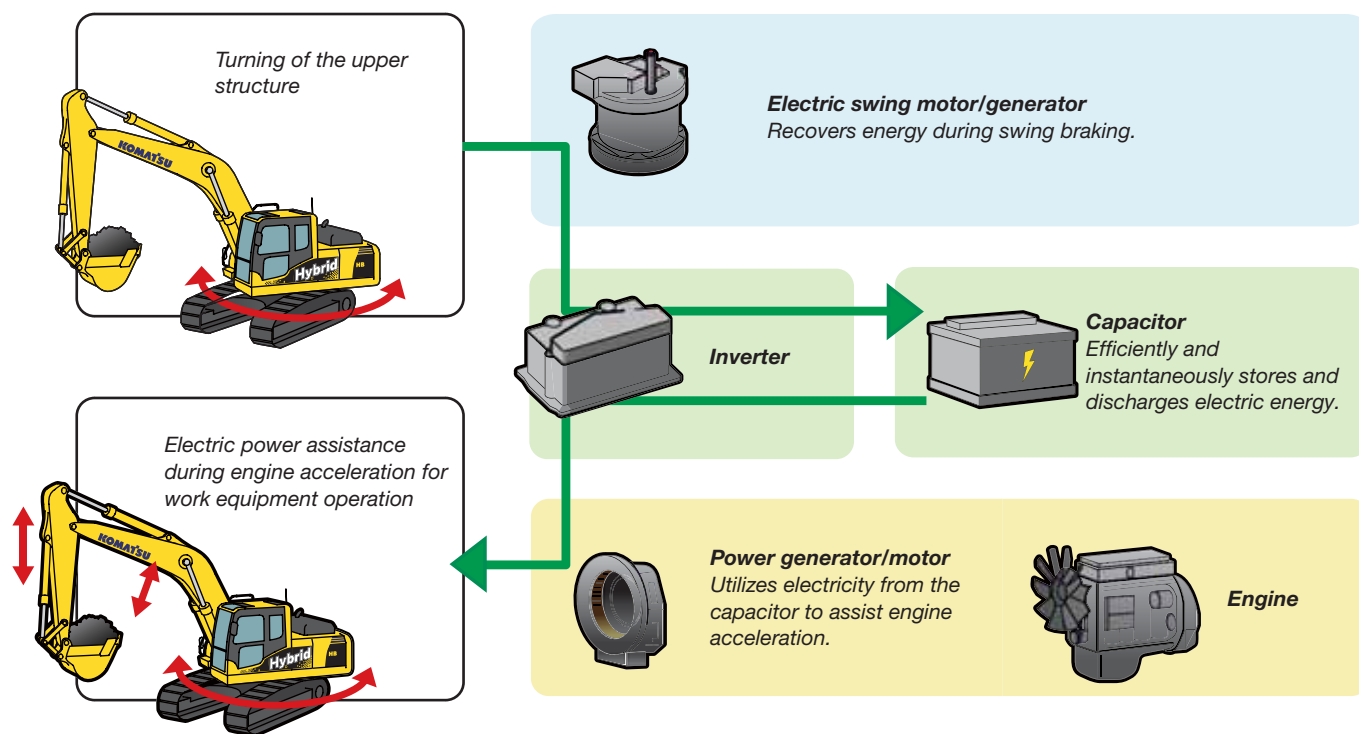
## Highest safety standards

- Safe SpaceCab™, ROPS compliant with ISO12117-2:2008
- Rear view camera
- Optimal jobsite safety
- Safe access, easy maintenance
- Falling Object Protection System (FOPS) optional

# Komatsu Hybrid System

## The Komatsu hybrid system

In Komatsu's unique hybrid system, the electric swing motor/generator captures and regenerates energy as the upper structure slows down and converts it into electric energy. The regenerated energy is stored in the ultra-capacitor and used by the generator/motor to assist the engine when it needs to accelerate. Thus, the hybrid system reduces fuel consumption significantly.



## Hybrid operation monitor

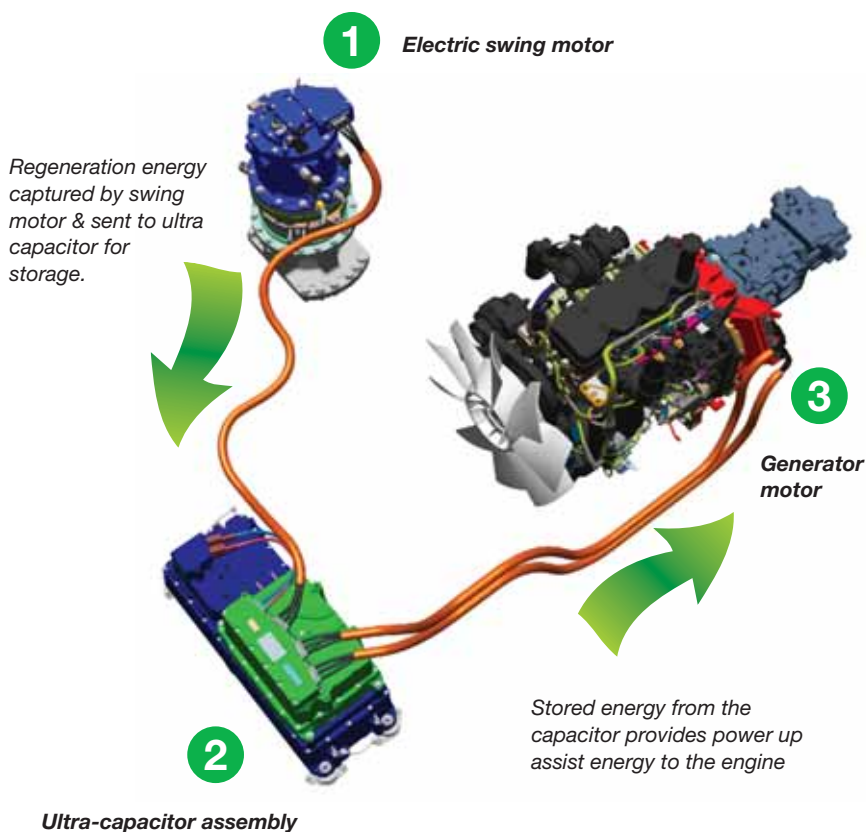
The operator can check recent fuel consumption rates and the energy flow among engine and hybrid components on the machine monitor at any time.



Hybrid energy management screen

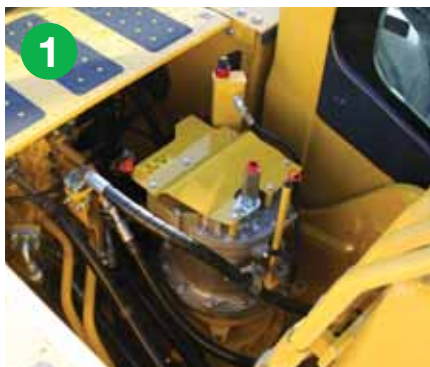


Fuel consumption screen



## Reliable and durable hybrid system components

In addition to the engine, hydraulic components, main valve and electronic components that control them, the hybrid system components such as the generator/motor, swing electric motor/generator, inverter and capacitor are also developed and manufactured by Komatsu. They are neatly arranged on the machine. Controlling the inverter enables the optimum operation of the generator/motor, electric swing motor/generator and engine according to the work at hand, allowing the machine to demonstrate its potential fully while reducing fuel consumption significantly.



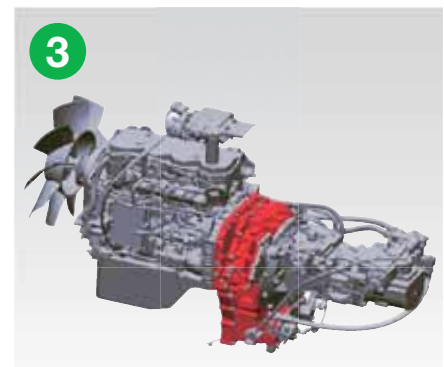
### Electric swing motor

An electric swing motor is used in place of the usual hydraulic swing motor and is designed to recover energy during swing braking. Energy is sent to the ultra-capacitor for storage.



### Ultra-capacitor assembly

The ultra-capacitor assembly includes an inverter that switches the AC electricity from the generator motor and swing motor into DC electricity for storage in the capacitor. Since capacitors require migration of electrons and ions for charging and discharging, they can transfer power much faster than batteries, which use chemical reactions to produce electricity.



### Generator motor

The generator motor is positioned between the engine and hydraulic pumps. The generator produces electric power to charge the capacitor as needed. The generator motor uses electricity from the capacitor to provide power up engine assistance to the engine.

# Total Versatility

## Ideal for high productivity material moving

Powerful, efficient and precise, the Komatsu HB215LC-1 is a strong and reliable partner particularly suited for moving large amounts of material. Whether loading gravel or moving waste on demolition sites, its unique hybrid technology allied with Komatsu's famous hydraulic expertise ensures maximum productivity and control.

## 5 working modes

Power, Lifting, Breaker, Attachment, and Economy.

The HB215LC-1 features 5 selectable working modes that optimise performance and fuel usage. The Economy mode can be adjusted for an ideal balance between power and economy to match your work. The oil flow delivered to hydraulic attachments is adjustable directly on the class-leading wide screen monitor panel.



## Built-in versatility

To allow the use of a variety of buckets and attachments such as breakers, a power supply for a hydraulic quick coupler with adjustable pressure setting, and an additional hydraulic circuit controlled by a foot pedal are standard on the HB215LC-1.

## Exceptionally Eco-friendly

HB215LC-1 is a perfect machine for urban and night work and for job sites where performance, low emissions and reduced noise levels are needed. Komatsu's exclusive hybrid technology is backed by proven features such as an efficient low-emissions engine, a highly advanced engine/hydraulic matching system, and an eco-gauge on the cabin monitor to guide the operator. All this advanced technology leads to a sizeable reduction in fuel consumption, emissions and noise levels.





# First-Class Operator Comfort

## Wide spacious cab

The wide and spacious cab includes a heated air suspension seat with a reclining backrest. The seat height and longitudinal inclination are easily adjusted with a pull-up lever. You can also set the operational posture of the armrest and the position of the console.

## Cab damper mounting

The built-in stability of the Komatsu HB215LC-1, combined with a highly rigid deck and a sprung multi-layer viscous mount system, drastically reduces vibration levels for the operator.

## Low noise design

Komatsu Dash 8 crawler excavators feature the lowest in-class external noise levels and are especially well-suited for work in confined spaces or urban areas. Reduced fan speed, a large capacity radiator, and the optimal usage of sound insulation and of sound absorbing materials help to make noise levels inside Dash 8 excavators comparable to those inside an executive car.

## Pressurised cab

An automatic air conditioner, an air filter and a positive internal air pressure (60 Pa) combine to prevent external dust from entering the cab.



Automatic air conditioner



Hot and cool box





## Large, widescreen TFT monitor

To enable safe, accurate and smooth work, the user friendly monitor is the highly intuitive user interface for the machine's Equipment Management and Monitoring System (EMMS). Multilingual and with all essential information available at a glance, it features simple and easy to operate switches and multifunction keys that provide the operator with fingertip access to a wide range of functions and operating information.





# Highest Safety Standards

## Safe SpaceCab™

The cab is ROPS compliant with ISO 12117-2:2008. It has a tubular steel frame and provides very high shock absorbency, impact resistance and durability. The seat belt is designed to keep the operator in the safety zone of the cab in the event of a roll-over.

## Safe and easy maintenance

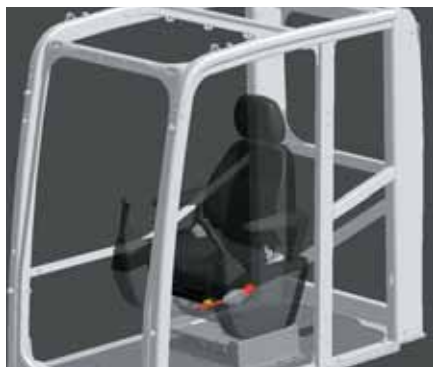
Thermal guards are placed around high temperature parts of the engine. The fan belt and pulleys are well protected and in case of damage, fire risk is reduced by a pump/engine partition that prevents hydraulic oil from spraying onto the engine.

## Optimal job site safety

Safety features on the Komatsu HB215LC-1 comply with the latest industry standards and work together as a system to minimise risks to personnel in and around the machine. An audible travel alarm further promotes job site safety. Very durable anti-slip plates – with additional high friction covering – maintain long term traction performance.

## Rear view camera

A standard fitment camera gives an exceptionally clear view of the rear work zone on the wide-screen monitor panel. Large mirrors on both sides ensure that machine visibility meets the latest ISO standards.



Safe SpaceCab™



Rear view camera



Anti-slip plates



# Quality You Can Rely On

## Reliable and efficient

Productivity is the key to success – all major components of the HB215LC-1 are designed and directly manufactured by Komatsu. Essential machine functions are perfectly matched for a highly reliable and productive machine.

## Rugged design

Maximum toughness and durability – along with top class customer service – are the cornerstones of Komatsu's philosophy. Single piece plates and castings are used in key areas of the machine's structure for good load distribution. Highly durable rubbing strips on the underside of the arm protect the structure from material falling from the bucket.

## Komatsu-quality components

With the latest computer design techniques and a thorough test programme, Komatsu's global know-how produces machines that are designed, manufactured and tested to meet your highest standards.

## Extensive dealer support network

The extensive Komatsu distribution and dealer network is standing by to help keep your fleet in optimum condition. Customised servicing packages are available, with express availability of spare parts, to make sure that your Komatsu will continue to perform at its peak.



Cast boom foot



Single piece boom plates



# Komatsu Wireless Monitoring System

## The easy way to higher productivity

KOMTRAX™ is the latest in wireless monitoring technology. It delivers insightful and cost saving information about your fleet and equipment and offers you a wealth of information to facilitate peak machine performance. By creating a tightly integrated web of support it allows pro active and preventive maintenance and helps you to efficiently run a business.

## Knowledge

You get quick answers to basic and critical questions about your machines - what they're doing, when they did it, where they're located, how they can be used more efficiently, and when they need to be serviced. Performance data is relayed by satellite from your machine to your computer and to your local Komatsu distributor - who's readily available for expert analysis and feedback.

## Convenience

KOMTRAX™ helps to conveniently manage your fleet on the web, wherever you are. Data is analysed and packaged specifically for easy and intuitive viewing in maps, lists, graphs and charts. You can anticipate the type of service and parts your machines could require, or troubleshoot problems before Komatsu technicians arrive on site.

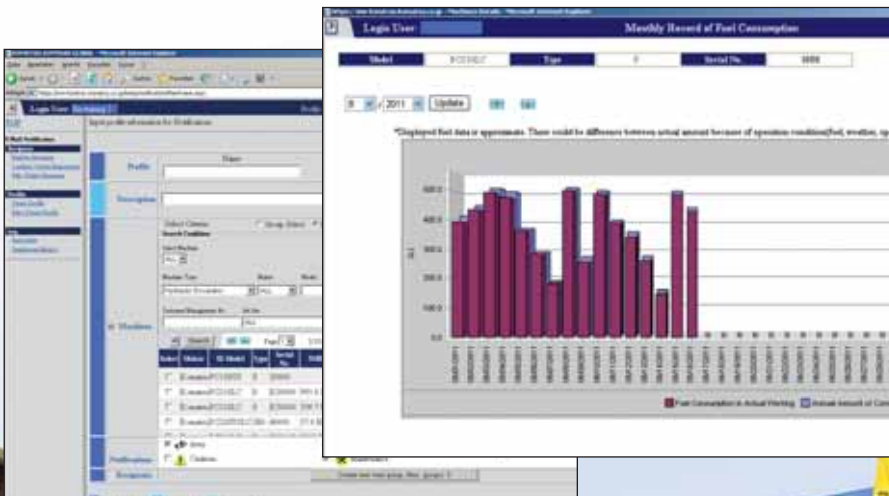


## Power

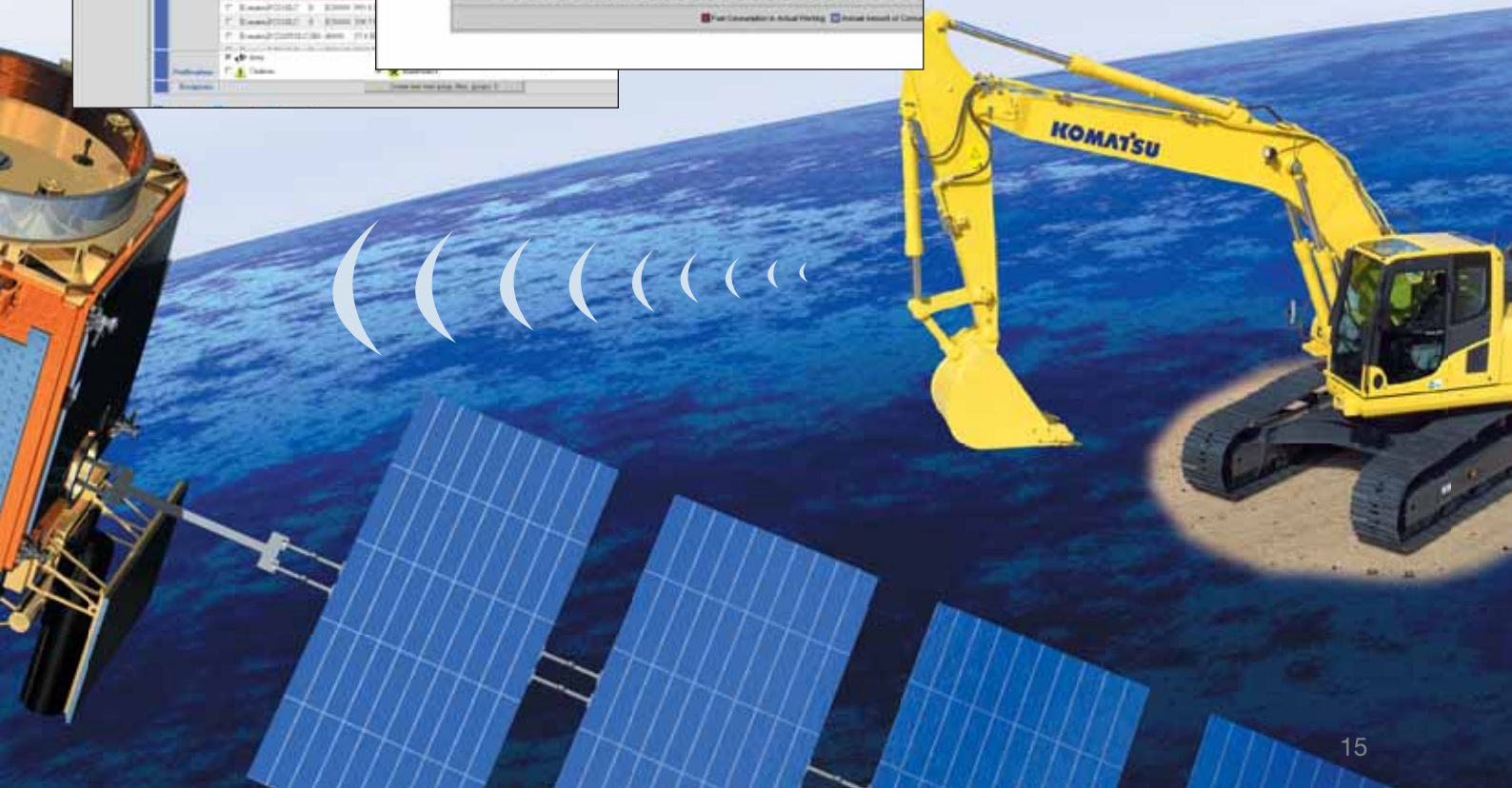
The detailed information that KOMTRAX™ puts at your fingertips 24 hours a day, 7 days a week gives you the power to make better daily and long-term strategic decisions. You can anticipate problems, customize maintenance schedules, minimize downtime and keep your machines where they belong – working on the job site.



Through the web application, a variety of search parameters are available to quickly find information about specific machines based on key factors such as utilization rates, age, various notification messages, and more.



A simple chart shows the machine's fuel consumption and helps you to calculate total costs for a job site and conveniently schedule fuel deliveries.



# Easy Maintenance

## Side-by-side cooling

Since the radiator, aftercooler and oil cooler are arranged in parallel, it is easy to clean, remove and install them.



## Easy access to the engine oil filter and fuel drain valve

The engine oil filter and fuel drain valve are mounted remotely to improve accessibility.



## Gas-assisted engine hood damper cylinders

The engine hood can be easily opened and closed with help of the gas-assisted engine hood damper cylinders.



## Water separator

This is standard equipment which removes any water that has become mixed with the fuel, preventing fuel system damage.



## Washable floor

The floor is easy to keep clean. The gently inclined surface has a flanged floormat and drainage holes to facilitate runoff.

## Inclined track frame

The track frame is sloped so that dirt will not accumulate and can be removed easily.

## Long-life oil filters

The hydraulic oil filter uses high-performance filtering material for long element replacement intervals, which significantly reduces maintenance costs.



## Flexible warranty

When you purchase Komatsu equipment, you gain access to a broad range of programmes and services that have been designed to help you get the most from your investment. For example, Komatsu's Flexible Warranty Programme provides a range of extended warranty options on the machine and its components. These can be chosen to meet your individual needs and activities. This programme is designed to help reduce total operating costs.



## ENGINE

Model .....	Komatsu SAA4D107E-1-A
Type .....	Common rail direct injection, water-cooled, emissionised, turbocharged, after-cooled diesel
Engine power	
at rated engine speed .....	2.000 rpm
ISO 14396 .....	110 kW / 148 HP
ISO 9249 (net engine power) .....	104 kW / 139 HP
No. of cylinders .....	4
Bore x stroke .....	107 x 124 mm
Displacement .....	4,46 ltr
Battery .....	2 x 12 V/140 Ah
Alternator .....	24 V/60 A
Starter motor .....	24 V/5,5 kW
Air filter type .....	Double element type with monitor panel dust indicator and auto dust evacuator
Cooling .....	Suction type cooling fan with radiator fly screen

## HYDRAULIC SYSTEM

Type .....	HydrauMind. Closed-centre system with load sensing and pressure compensation valves
Main pump .....	2 variable displacement piston pumps supplying boom, arm, bucket and travel circuits
Maximum pump flow .....	439 ltr/min
Relief valve settings	
Implement .....	380 bar
Travel .....	380 bar
Pilot circuit .....	33 bar

## UNDERCARRIAGE

Construction .....	X-frame centre section with box section track frames
Track assembly	
Type .....	Fully sealed
Shoes (each side) .....	49
Tension .....	Combined spring and hydraulic unit
Rollers	
Track rollers (each side) .....	9
Carrier rollers (each side) .....	2

## OPERATING WEIGHT (APPR.)

Triple grouser shoes	Operating weight	Ground pressure
600 mm	21.220 kg	0,45 kg/cm <sup>2</sup>

Operating weight, including mono boom, 2,9 m arm, 0,8 m<sup>3</sup> bucket, operator, lubricant, coolant, full fuel tank and the standard equipment.

## SWING SYSTEM

Type .....	Electric drive
Swing reduction .....	Planetary gear
Swing brake .....	Electric brake
Swing lock .....	Mechanical disc brake
Swing speed .....	0 - 12,4 rpm
Swing torque .....	69 kNm

## DRIVES AND BRAKES

Steering control .....	2 levers with pedals giving full independent control of each track
Drive method .....	Hydrostatic
Travel operation .....	Automatic 3-speed selection
Gradeability .....	70%, 35°
Max. travel speeds	
Lo / Mi / Hi .....	3,0 / 4,1 / 5,5 km/h
Maximum drawbar pull .....	18.200 kg
Service brake .....	Mechanical disc brake

## SERVICE REFILL CAPACITIES

Fuel tank .....	400 ltr
Coolant engine .....	17,3 ltr
Coolant Hybrid .....	5,2 ltr
Swing drive .....	7,1 ltr
Swing motor .....	1,6 ltr
Generator motor .....	6,0 ltr
Hydraulic tank .....	135 ltr
Final drive (each side) .....	3,3 ltr

## ENVIRONMENT

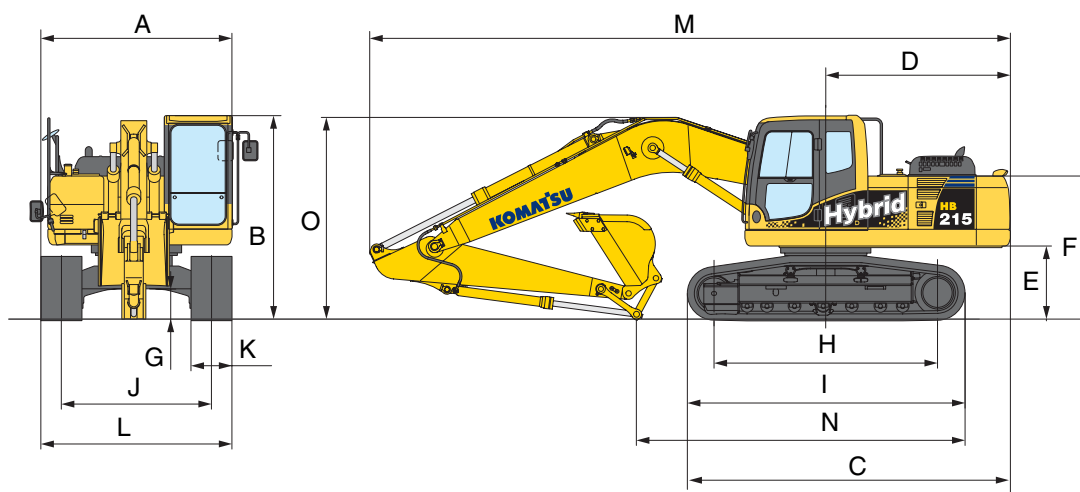
Engine emissions .....	Fully complies with EU Stage IIIA and EPA Tier III exhaust emission regulations
Noise levels	
LwA external .....	69 dB(A) (2000/14/EC Stage II)
LpA operator ear .....	102 dB(A) (ISO 6396 dynamic test)
Vibration levels (EN 12096:1997)*	
Hand/arm .....	≤ 2,5 m/s <sup>2</sup> (uncertainty K = 0,51 m/s <sup>2</sup> )
Body .....	≤ 0,5 m/s <sup>2</sup> (uncertainty K = 0,3 m/s <sup>2</sup> )

\* for the purpose of risk assessment under directive 2002/44/EC, please refer to ISO/TR 25398:2006.

# Dimensions & Performance Figures

## MACHINE DIMENSIONS

A	Overall width of upper structure	2.710 mm
B	Overall height of cab	3.040 mm
C	Overall length of basic machine	4.540 mm
D	Tail length	2.710 mm
	Tail swing radius	2.750 mm
E	Clearance under counterweight	1.085 mm
F	Machine tail height	2.095 mm
G	Ground clearance	440 mm
H	Tumbler centre distance	3.655 mm
I	Track length	4.450 mm
J	Track gauge	2.380 mm
K	Track shoe width	600 mm
L	Overall track width with 600 mm shoe	2.980 mm



## TRANSPORT DIMENSIONS

	Arm length	2,9 m
M	Transport length	9.425 mm
N	Length on ground (transport)	5.000 mm
O	Overall height (to top of boom)	2.970 mm

## BUCKET AND ARM FORCE

<b>Arm length</b>	<b>2,9 m</b>
Bucket digging force	14.100 kg
Bucket digging force at PowerMax	15.200 kg
Arm crowd force	10.300 kg
Arm crowd force at PowerMax	11.000 kg

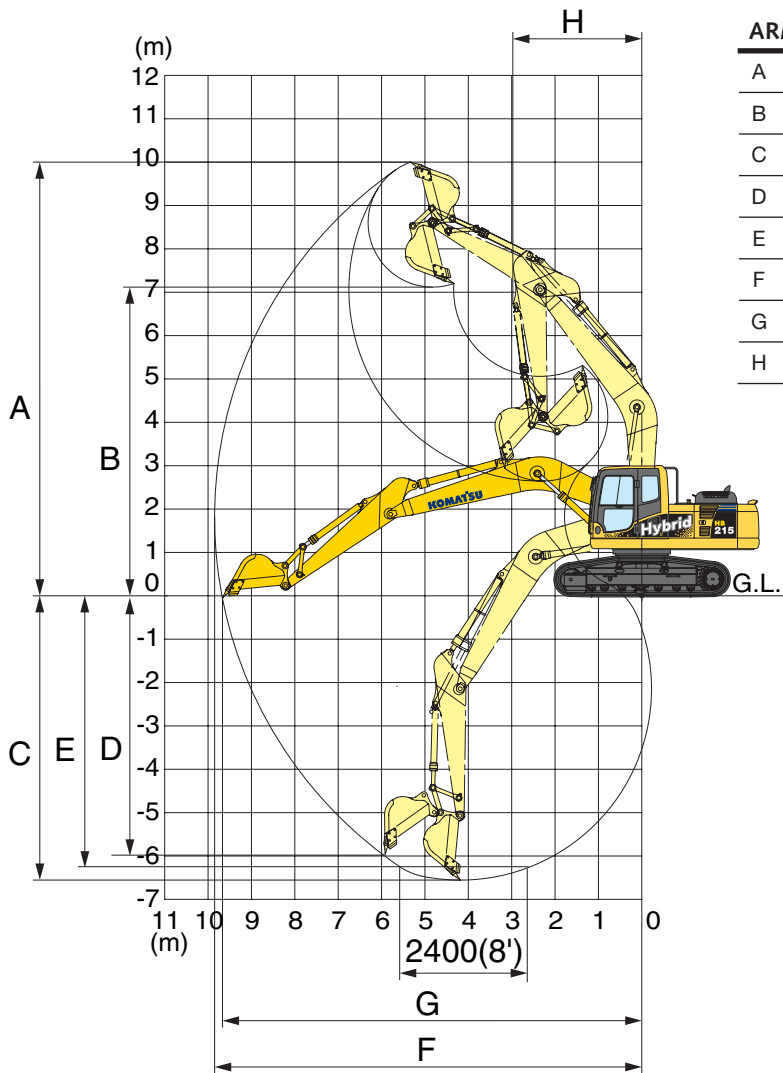
## MAX. BUCKET CAPACITY AND WEIGHT

Arm length	2,9 m
Material weight up to 1,2 t/m <sup>3</sup>	1,36 m <sup>3</sup> 1.075 kg
Material weight up to 1,5 t/m <sup>3</sup>	1,17 m <sup>3</sup> 950 kg
Material weight up to 1,8 t/m <sup>3</sup>	1,02 m <sup>3</sup> 875 kg

This table is for reference only. Buckets shown are not necessarily available. Please consult with your distributor for the correct selection of buckets and attachments to suit the application.

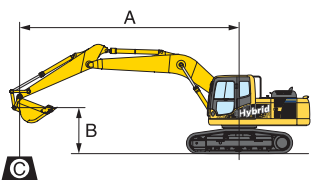


## Working Range



ARM LENGTH		2,9 m
A	Max. digging height	10.000 mm
B	Max. dumping height	7.110 mm
C	Max. digging depth	6.620 mm
D	Max. vertical wall digging depth	5.980 mm
E	Max. digging depth of cut for 2,44 m level	6.370 mm
F	Max. digging reach	9.875 mm
G	Max. digging reach at ground level	9.700 mm
H	Min. swing radius	3.040 mm

## LIFTING CAPACITY



- A - Reach from swing center
- B - Bucket hook height
- C - Lifting capacities, including bucket, bucket linkage and bucket cylinder

- Rating over front
- Rating over side
- Rating at maximum reach

When removing bucket, linkage or cylinder, lifting capacities can be increased by their respective weights.

With 700 mm shoes

Arm length	A		7,6 m		6,1 m		4,6 m		3,0 m		1,5 m		
	B												
<p>2,9 m</p> <p>650 kg</p>	7,6 m	kg	*2.750	*2.750			*3.800	*3.800					
	6,1 m	kg	*2.600	*2.600			*4.300	*4.300					
	4,6 m	kg	*2.650	2.550	*4.650	3.000	*4.900	4.500					
	3,0 m	kg	*2.800	2.300	4.750	2.900	*5.850	4.250	*7.350	6.750	*11.350	*11.350	
	1,5 m	kg	*3.050	2.200	4.650	2.800	6.700	4.000	*9.300	6.250	*7.500	*7.500	
	0,0 m	kg	*3.500	2.250	4.550	2.700	6.450	3.850	10.450	5.900	*8.000	*8.000	
	-1,5 m	kg	4.150	2.450	4.500	2.650	6.350	3.750	*10.250	5.800	*11.200	*11.200	*6.800
-3,0 m	kg	4.950	2.950			6.350	3.750	10.300	5.800	*15.600	11.500	*10.550	*10.550
-4,6 m	kg	*6.750	4.150					*9.050	6.000	*13.050	11.900		

# Hydraulic Excavator

## HB215LC-1

### Standard and Optional Equipment

#### ENGINE

Komatsu SAA4D107E-1-A turbocharged common rail direct injection diesel engine	●
EU Stage IIIA/EPA Tier III compliant	
Suction type cooling fan with radiator fly screen	●
Automatic engine warm-up system	●
Engine overheat prevention system	●
Fuel control dial	●
Auto-deceleration function	●
Engine key stop	●
Engine ignition can be password secured on request	●
Alternator 24 V/60 A	●
Starter motor 24 V/5,5 kW	●
Batteries 2 × 12 V/140 Ah	●

#### HYBRID SYSTEM

Electrical swing motor energy recover system	●
Ultra-capacitor with built in inverter	●
Combined generator/motor	●

#### HYDRAULIC SYSTEM

Electronic closed-centre load sensing (E-CLSS) hydraulic system (HydrauMind)	●
Pump and engine mutual control (PEMC) system	●
5-working mode selection system; Power mode, economy mode, breaker mode, attachment mode and lifting mode	●
PowerMax function	●
Adjustable PPC wrist control levers for arm, boom, bucket and swing	●
Prepared for hydraulic quick-coupler	●
One additional hydraulic circuit	●

#### UNDERCARRIAGE

Track roller guards	●
Track frame under-guards	●
LC undercarriage	●
600 mm triple grouser track-shoes	●

#### CABIN

Reinforced safety SpaceCab™; Highly pressurised and tightly sealed hyper viscous mounted cab with tinted safety glass windows, large roof window with sun shade, pull-up type front window with locking device, removable lower window, front window wiper with intermittent feature, sun visor, cigarette lighter, ashtray, luggage shelf, floor mat	●
Heated, high back air suspension seat with lumbar support, height adjustable arm rests and retractable seat belt	●
Automatic climate control system	●
12 Volt power supply	●
Beverage holder and magazine rack	●
Hot and cool box	●
Radio	●
Rain visor	●

#### SERVICE AND MAINTENANCE

Automatic fuel line de-aeration	●
Double element type air cleaner with dust indicator and auto dust evacuator	●
KOMTRAX™ - Komatsu wireless monitoring system	●
Multi-function video compatible colour monitor with Equipment Management and Monitoring System (EMMS) and efficiency guidance	●
Toolkit and spare parts for first service	●

#### WORK EQUIPMENT

Mono boom	●
2,9 m arm	●
Komatsu buckets	○
Komatsu breakers	○

#### LIGHTING SYSTEM

Working lights: 4 cab roof (front), 1 boom, 1 counterweight (rear), beacon	●
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#### SAFETY EQUIPMENT

Rear view camera system	●
Electric horn	●
Overload warning device	●
Lockable fuel cap and covers	●
Audible travel alarm	●
Boom safety valves	●
Large handrails, rear-view mirrors	●
Battery main switch	●
ROPS compliant to ISO12117-2:2008	●
Arm safety valve	●

#### DRIVES AND BRAKES

Hydrostatic, 3-speed travel system with automatic shift and planetary gear type final drives, and hydraulic travel and parking brakes	●
PPC control levers and pedals for steering and travel	●

#### OTHER EQUIPMENT

Standard counterweight	●
Remote greasing for swing circle and pins	●
Electric refuelling pump with automatic shut off function	●
Standard colour scheme and decals	●
Parts book and operator manual	●

Further equipment on request

- standard equipment
- optional equipment

Your Komatsu partner:

# KOMATSU

**Komatsu Europe  
International NV**  
Mechelsesteenweg 586  
B-1800 VILVOORDE (BELGIUM)  
Tel. +32-2-255 24 11  
Fax +32-2-252 19 81  
[www.komatsu.eu](http://www.komatsu.eu)

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