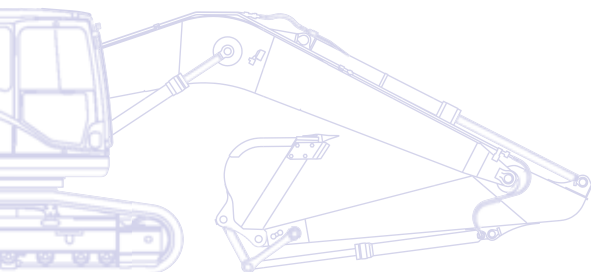


KOMATSU

PC
228



Hydraulic Excavator **PC228USLC-8**



ENGINE POWER
116 kW / 156 HP @ 2.000 rpm

OPERATING WEIGHT
22.730 - 23.280 kg

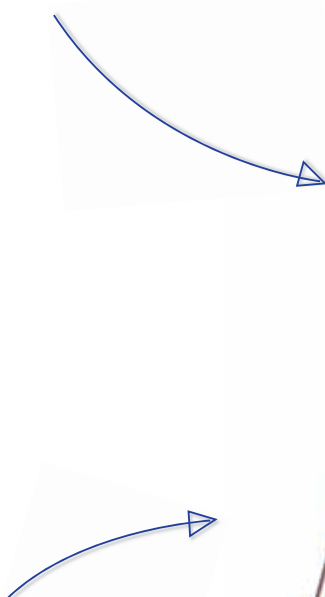
BUCKET CAPACITY
max. 1,49 m³

Walk-Around

The Komatsu PC228USLC-8 hydraulic excavator was designed with an ultra-short tail swing to meet the challenges of work in confined areas. With a near-zero tail swing radius, it's the ultimate machine for jobsite safety and is perfect for work on roadways, bridges, in urban areas, or anywhere with limited work space. The PC228USLC-8 delivers the quality, performance and productivity you can expect from Komatsu equipment.

Powerful and environmentally friendly

- Low consumption ecot3 engine
- Komatsu integrated hydraulic system
- Eco-gauge and idle caution



Quality you can rely on

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



PC228usLC-8

ENGINE POWER
116 kW / 156 HP @ 2.000 rpm

OPERATING WEIGHT
22.730 - 23.280 kg

BUCKET CAPACITY
max. 1,49 m³

First-class operator comfort

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



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

Total versatility

- Ultra-short tail swing
- Ideal for a wide range of applications
- 5 working modes
- Wide choice of options
- Built-in versatility



KOMTRAX

Komatsu Satellite
Monitoring System

Total Versatility

Ideal for a wide range of applications

Powerful and precise, the Komatsu PC228USLC-8 is equipped to efficiently carry out any task your business requires. On big sites or small, for digging, trenching, landscaping or site preparation, the Komatsu original equipment hydraulic system always ensures maximum productivity and control.

5 working modes

Power, Lifting, Breaker, Attachment, and Economy.

The PC228USLC-8 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 many attachments, such as buckets, breakers or demolition tools, a power supply for a hydraulic quick coupler with adjustable pressure settings, and an additional hydraulic circuit controlled by a foot pedal and a sliding joystick push button are standard on the PC228USLC-8. A second optional auxiliary line is also available for attachments that require extra hydraulic actuation.

Many options

With many options available – such as road-liner track shoes or different arms – you can configure the PC228USLC-8 to match specific demands for transport, working envelope or duty. Extra hydraulic arrangements are available for every boom and arm configuration, making sure that the machine always contributes strongly to your business.

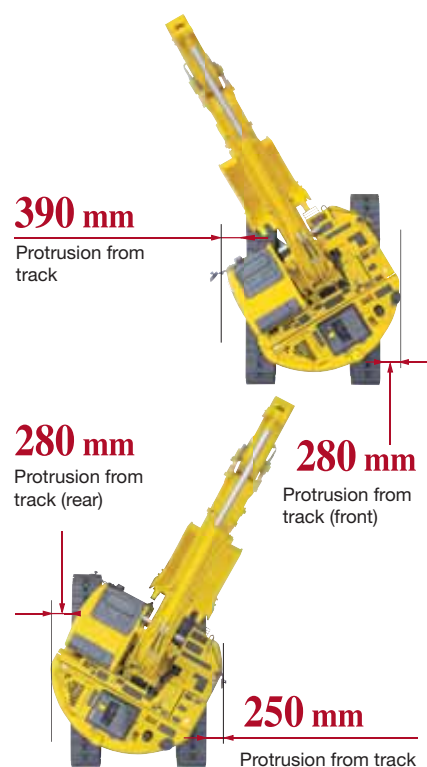


Additional hydraulic circuits (optional)



600 mm road-liner shoes (optional)





Short tail swing and exceptional stability

The PC228USLC-8 has a rounded profile with minimal protrusions at both the front and the rear. Its ultra-short tail swing radius is perfect for work in tight spaces, particularly in urban areas, or for road construction, logging and demolition. Thanks to optimised packaging, the PC228USLC-8 is exceptionally stable. Coupled with the machine's wide working range, this stability makes it ideal for any work requiring long reach, such as demolition jobs and slope cutting. With ample dumping reach available for loading operations, the operator can always work easily, efficiently and with absolute confidence.

Powerful and Environmentally Friendly

Low consumption ecot3 engine

The Komatsu SAA6D107E-1 engine provides high torque, a better performance at low speed and low fuel consumption. This ecot3 engine features a new combustion chamber design with optimised ignition and combustion timing. The operating pressure of the new common rail system was increased for improved injection and fuel efficiency. The air-to-air charge cooler reduces the temperature of the compressed air supplied by the turbo charger to the cylinders, and further improves fuel consumption.

Meets EU Stage IIIA

The Komatsu ecot3 engine technology reduces NOx and particle emissions, fuel consumption and noise level. The Komatsu SAA6D107E-1 engine is certified for EPA Tier III and EU Stage IIIA emission regulations.

Komatsu integrated hydraulic system

The PC228USLC-8 is a highly responsive and productive machine with all major hydraulic parts designed and manufactured by Komatsu. The electronic Closed Load Sensing hydraulic System (CLSS) offers complete control during individual or combined movements - without sacrificing performance or productivity.

Eco-gauge and idle caution

The unique ECO-gauge helps the operator reduce emissions and fuel consumption for environmentally friendly and energy saving operations. And to further avoid wasting fuel when the machine is not actually working, a standard-fit idle caution is displayed if the engine idles for 5 minutes or more.

Komatsu SAA6D107E-1



Eco-gauge



Idle caution

Electric refuelling pump

Standard equipment on all PC228USLC-8 includes an electric fuel pump, simple to operate and with an automatic shut-off. To further increase the system's safety, a barrier and special foams help to avoid any spilt fuel flowing towards hot areas of the machine.



First-Class Operator Comfort

Wide spacious cab

The newly designed, wide and spacious cab includes a comfortable 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.

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.

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.

Cab damper mounting

The built-in stability of the Komatsu PC228USLC-8, combined with a highly rigid deck and a sprung multi-layer viscous mount system, drastically reduces vibration levels for the operator.



Automatic air conditioner



Quick-coupler piping standard



Joysticks with proportional control button for attachments



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 operation in confined areas

The machine's rounded profile allows it to operate in narrow spaces or where there are a number of obstructions. The compact tail design minimises the risks of rear impact and lets the operator concentrate fully on his work.

Optimal job site safety

Safety features on the Komatsu PC228USLC-8 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.

Safe SpaceCab™

The new 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. At your request, the Komatsu PC228USLC-8 can also be fitted with an ISO 10262 Level 2 Falling Object Protective System (FOPS).

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.

Short tail swing radius:

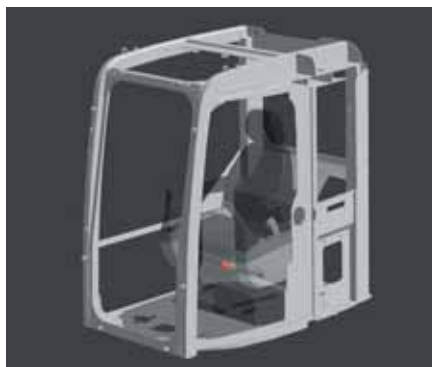
1,68 m – Because the tail of the PC228USLC-8 is more compact than conventional models, the PC228USLC-8 reduces the operator's need to check behind him for movement.

Short implement swing radius:

2,31 m – Boom raising angle of the PC228USLC-8 is larger than the PC210-8, while front implement protrusion is lessened.



Rear view camera

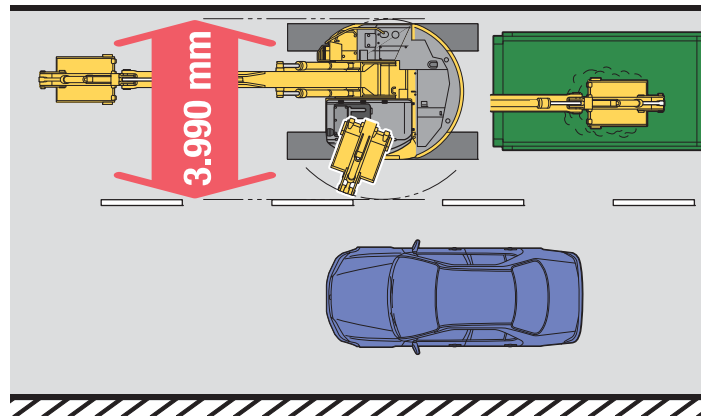
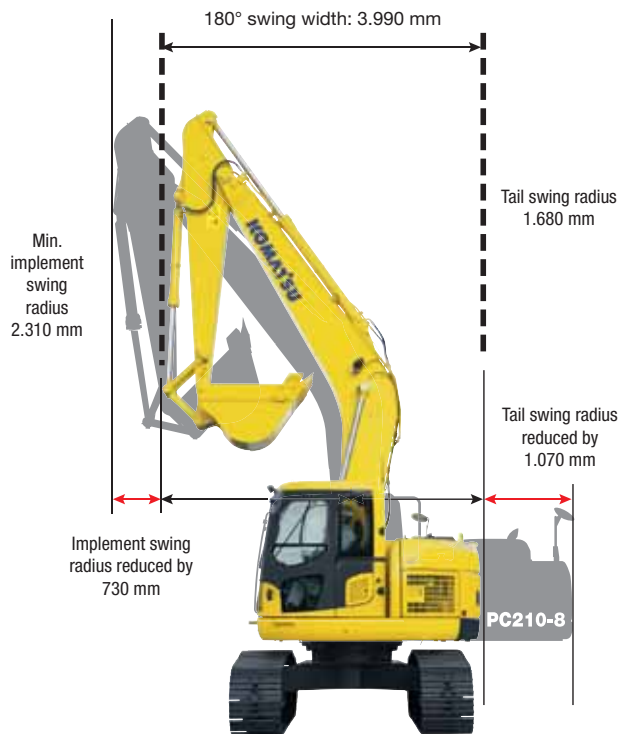


Safe SpaceCab™



Falling Object Protection System (FOPS) optional





When performing road work, protrusion of the machine into the unoccupied lane is kept to a minimum. This allows a dump truck to be positioned closer to the track of the machine.





Quality You Can Rely On

Reliable and efficient

Productivity is the key to success – all major components of the PC228USLC-8 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.

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



The sliding door facilitates easy entrance in confined areas while reducing the risk of damage on roadways. The cab also features a sliding window.



Komatsu Satellite Monitoring System



KOMTRAX™ is a revolutionary machine tracking system designed to save you time and money. You can now monitor your equipment anytime and anywhere. Use valuable machine data received via the KOMTRAX™ web site to optimise your maintenance planning and machine performances.

KOMTRAX™ can assist you with:

Full machine monitoring

Get detailed operation data to know when your machines are used and how productive they are.

Total Fleet Management

Keep track of the location of your machines at all times and discourage unapproved usage or theft.

Complete machine status

Receive warnings, alerts and cautions, via a web site or by e-mail, to help with maintenance planning and for longer machine life.

For further details on KOMTRAX™, please ask your Komatsu dealer for the latest KOMTRAX™ brochure.





Machine working time - With the “daily working record” chart, get precise engine running time data: when your machine was started and when it was shut down, as well as total engine running time.

Item	Due Date	Alert
Oil Change	2010-10-15	Alert
Filter Change	2010-10-15	Alert
Oil Change	2010-10-15	Alert
Filter Change	2010-10-15	Alert
Oil Change	2010-10-15	Alert
Filter Change	2010-10-15	Alert

Maintenance planning - To increase productivity and improve maintenance planning, alerts indicate when items such as filters or oil must be replaced.



Fleet location - The machine list instantly locates all your machines, even those in other countries.



Machine tracking during transport - When your machine is transported, KOMTRAX™ sends travel messages to the web site or by e-mail to inform you of its progress, and confirms when it reaches its destination.

Alarm notifications - You can receive notification of alarms both via the KOMTRAX™ website and by e-mail.

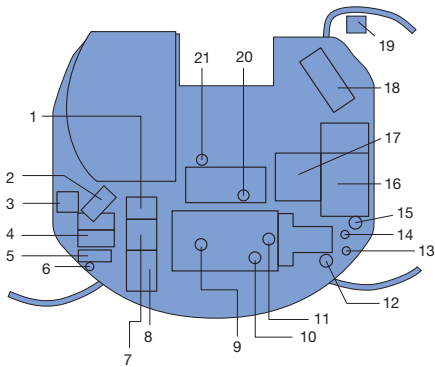
Added security - The “engine lock” feature allows to program when a machine’s engine can be started. And with “geo-fence”, KOMTRAX™ sends notification every time your machine moves in or out of a predetermined operating area.



Easy Maintenance

Optimum maintenance layout

Komatsu designed the PC228USLC-8 to have easy service access. By doing so, routine maintenance and servicing are less likely to be skipped, which can mean a reduction in costly downtime later on. Here are some of the many service features found on the PC228USLC-8.



1. Aftercooler
2. Air cleaner
3. Coolant reserve tank
4. Batteries
5. Tool box
6. Grease gun holder
7. Oil cooler
8. Radiator
9. Engine oil dipstick
10. Fuel filter
11. Engine oil filler
12. Engine oil filter
13. PTO oil filler
14. Fuel drain valve
15. Fuel pre filter (with water separator)
16. Fuel tank
17. Hydraulic tank
18. Control valve
19. Windshield washer tank
20. Swing machinery dipstick
21. Swing machinery oil filler

Washable floor

The PC228-8's floor is easy to keep clean. The gently inclined surface has a flanged floormat and drainage holes to facilitate runoff.

Water separator

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



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.

Side-by-side cooling

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

Long greasing interval

Special hard material is used for the bushings of the work equipment to lengthen greasing interval. All bushing lubrication intervals of work equipment except arm top bushing are 500 hours, reducing maintenance costs.



ENGINE

Model	Komatsu SAA6D107E-1
Type	Common rail direct injection, water-cooled, emissionised, turbocharged, after-cooled diesel
Engine power	
at rated engine speed	2.000 rpm
ISO 14396	116 kW / 156 HP
ISO 9249 (net engine power)	110 kW / 148 HP
No. of cylinders	6
Bore x stroke	107 x 124 mm
Displacement	6,69 ltr
Battery	2 x 12 V/120 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
Additional circuits	Depending on the specification up to 2 additional circuits can be installed
Main pump	2 variable displacement piston pumps supplying boom, arm, bucket, swing and travel circuits
Maximum pump flow	2 x 219 ltr/min
Relief valve settings	
Implement	380 bar
Travel	380 bar
Swing	295 bar
Pilot circuit	33 bar

SERVICE REFILL CAPACITIES

Fuel tank	320 ltr
Radiator	21 ltr
Engine oil	23,1 ltr
Swing drive	7,1 ltr
Hydraulic tank	126 ltr
Final drive (each side)	5,2 ltr

SWING SYSTEM

Type	Axial piston motor driving through planetary double reduction gearbox
Swing lock	Electrically actuated wet multi-disc brake integrated into swing motor
Swing speed	0 - 11,0 rpm

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	20.600 kg
Brake system	Hydraulically operated discs in each travel motor

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

ENVIRONMENT

Engine emissions	Fully complies with EU Stage IIIA and EPA Tier III exhaust emission regulations
Noise levels	
LwA external	102 dB(A) (2000/14/EC Stage II)
LpA operator ear	72 dB(A) (ISO 6396 dynamic test)
Vibration levels (EN 12096:1997)*	
Hand/arm	≤ 2,5 m/s ² (uncertainty K = 0,49 m/s ²)
Body	≤ 0,5 m/s ² (uncertainty K = 0,25 m/s ²)

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

OPERATING WEIGHT (APPR.)

Triple grouser shoes	Operating weight	Ground pressure
600 mm	22.730 kg	0,48 kg/cm ²
700 mm	23.000 kg	0,41 kg/cm ²
800 mm	23.280 kg	0,37 kg/cm ²

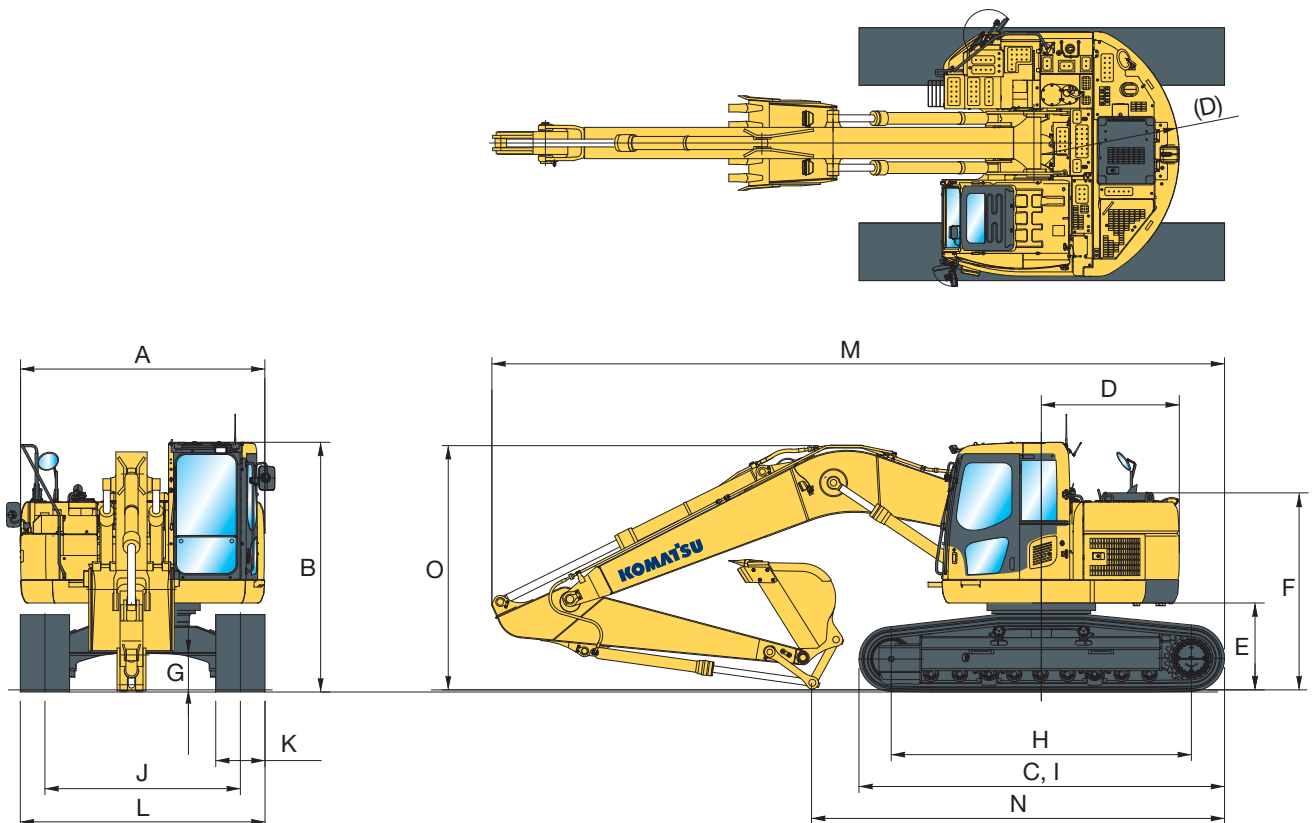
Operating weight, including 650 kg bucket, 2,9 m arm, operator, lubricant, coolant, full fuel tank and the standard equipment.

Dimensions

MACHINE DIMENSIONS

MONO BOOM

A	Overall width of upper structure	2.980 mm
B	Overall height of cab	3.050 mm
C	Overall length of basic machine	4.450 mm
D	Tail length	1.680 mm
	Tail swing radius	1.680 mm
E	Clearance under counterweight	1.060 mm
F	Machine tail height (to top of engine cover)	2.400 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, 700, 800 mm
L	Overall track width with 600 mm shoe	2.980 mm
	Overall track width with 700 mm shoe	3.080 mm
	Overall track width with 800 mm shoe	3.180 mm



MONO BOOM

	Arm length	2,4 m	2,9 m
M	Transport length	8.950 mm	8.890 mm
N	Length on ground (transport)	5.860 mm	5.020 mm
O	Overall height (to top of boom)	3.170 mm	2.980 mm



MAX. BUCKET CAPACITY AND WEIGHT

Arm length	MONO BOOM			
	2,4 m		2,9 m	
Material weight up to 1,2 t/m ³	1,49 m ³	1.075 kg	1,37 m ³	1.000 kg
Material weight up to 1,5 t/m ³	1,36 m ³	1.000 kg	1,26 m ³	950 kg
Material weight up to 1,8 t/m ³	1,18 m ³	900 kg	1,10 m ³	875 kg

Max. capacity and weight have been calculated according to ISO 10567:2007.
Please consult with your distributor for the correct selection of buckets and attachments to suit the application.

BUCKET AND ARM FORCE

Arm length	2,4 m	2,9 m
Arm crowd force at PowerMax	13.000 kg	11.000 kg
Bucket digging force at PowerMax	17.500 kg	15.200 kg

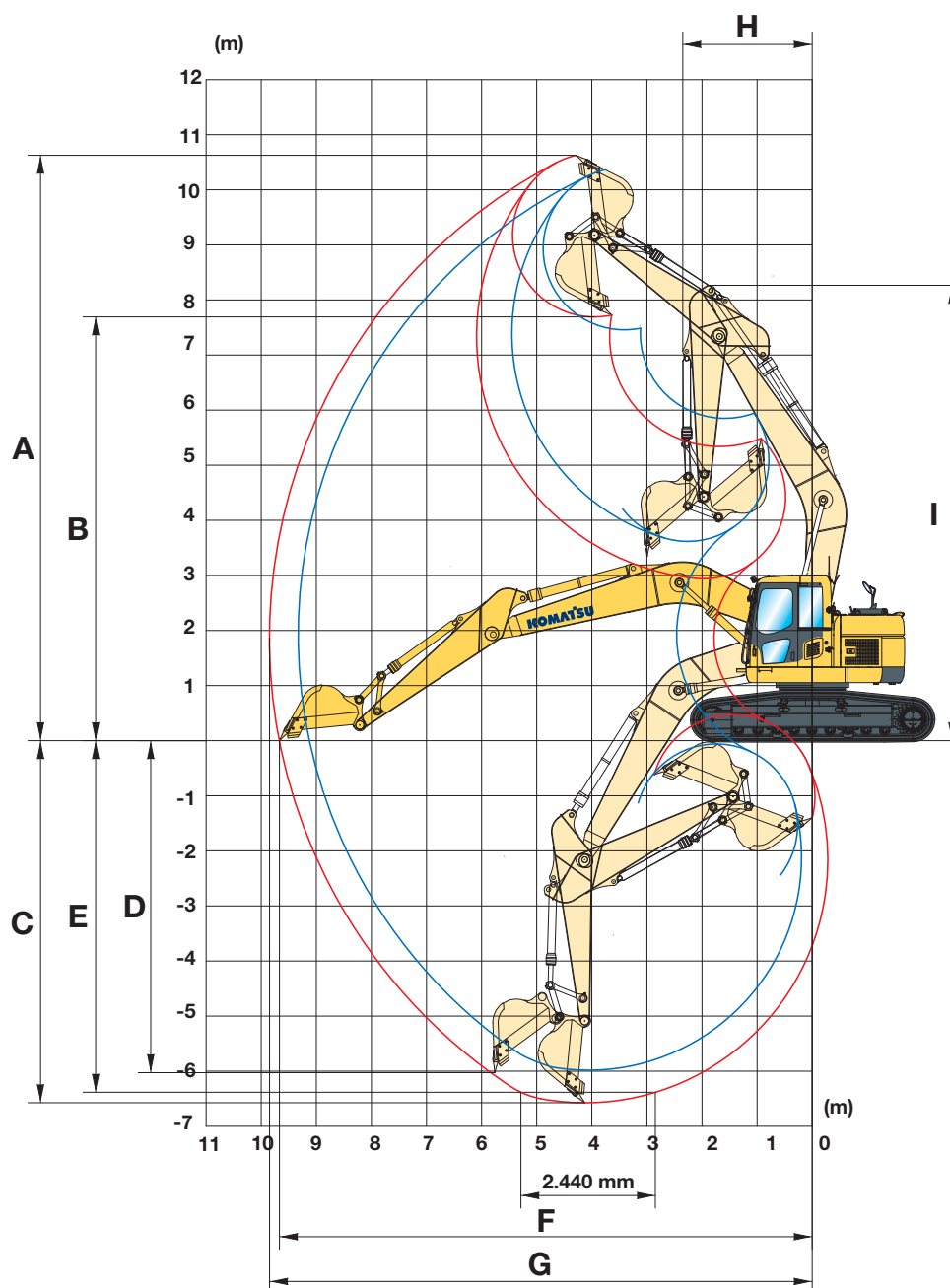
A full range of Komatsu wear parts is available.

A wide range of attachments is available. Please consult your distributor for details of the full range.



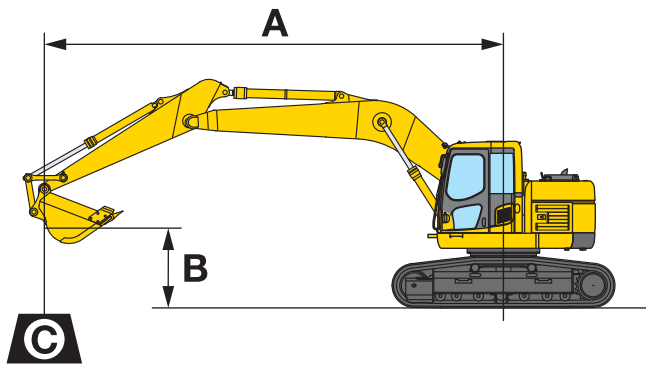
Working Range

MONO BOOM



ARM LENGTH	2,4 m	2,9 m
A Max. digging height	10.380 mm	10.700 mm
B Max. dumping height	7.470 mm	7.825 mm
C Max. digging depth	6.095 mm	6.620 mm
D Max. vertical wall digging depth	5.315 mm	5.980 mm
E Max. digging depth of cut for 2,44 m level	5.840 mm	6.370 mm
F Max. digging reach	9.395 mm	9.875 mm
G Max. digging reach at ground level	9.205 mm	9.700 mm
H Min. swing radius	2.700 mm	2.310 mm
I Max. height at min. swing radius	8.340 mm	8.250 mm

MONO BOOM




A – Reach from swing center

B – Bucket hook height


C – Lifting capacities, including bucket (650 kg), bucket linkage and bucket cylinder















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

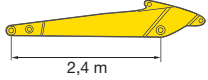

With 700 mm shoes



 – Rating over front

 – Rating over side

 – Rating at maximum reach

Arm length	A			7,5 m		6,0 m		4,5 m		3,0 m		1,5 m	
	B												

 2,4 m  650 kg 0,8 m³	6,0 m	kg	*4.250	3.400									
	4,5 m	kg	*4.290	2.780	*4.980	2.910	*5.310	4.350	*6.210	*6.210	*8.000	*8.000	
	3,0 m	kg	4.340	2.470	4.890	2.800	*6.280	4.080	*8.480	6.540			
	1,5 m	kg	4.190	2.350	4.760	2.680	6.850	3.870	*10.380	6.030			
	0,0 m	kg	4.300	2.400	4.660	2.600	6.660	3.710	10.800	5.760	*6.970	*6.970	
	-1,5 m	kg	4.760	2.650	4.640	2.580	6.580	3.640	10.710	5.690	*9.250	*9.250	*7.680
	-3,0 m	kg	5.870	3.280			6.640	3.680	*10.360	5.790	*14.680	11.850	*10.940
	-4,5 m	kg	*7.210	5.070					*8.420	6.050	*11.870	*11.870	

 2,9 m  650 kg 0,8 m³	6,0 m	kg	*2.780	*2.780	*3.110	3.040	*4.200	*4.200					
	4,5 m	kg	*2.810	2.530	*4.580	2.990	*4.840	4.470	*5.430	*5.430			
	3,0 m	kg	*2.960	2.270	4.960	2.860	*5.860	4.200	*7.670	6.750	*11.480	*11.480	
	1,5 m	kg	*3.250	2.160	4.800	2.720	6.900	3.950	*9.790	6.190	*6.860	*6.860	
	0,0 m	kg	*3.760	2.190	4.690	2.620	6.720	3.750	10.790	5.840	*5.200	*5.200	
	-1,5 m	kg	4.310	2.390	4.640	2.570	6.600	3.650	10.730	5.700	*9.300	*9.300	*5.180
	-3,0 m	kg	5.160	2.870			6.600	3.650	*10.710	5.740	*14.820	11.680	*9.740
	-4,5 m	kg	*6.870	4.100					*9.320	5.940	*13.300	*11.920	

* Load is limited by hydraulic capacity rather than tipping.

Ratings are based on SAE Standard No. J1097.

Rated loads do not exceed 87% of hydraulic lift capacity or 75% of tipping load.



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Hydraulic Excavator

PC228USLC-8

Standard and Optional Equipment

ENGINE

Komatsu SAA6D107E-1 turbocharged common rail direct injection diesel engine, EU Stage IIIA 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/120 Ah	●

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	●
One additional 2-way full-flow service spool with attachment lines on boom and arm and pedal in cab (HCU A)	●
Adjustable PPC wrist control levers for arm, boom, bucket and swing, with sliding proportional control for attachments and 3 auxiliary buttons	●
Quick-coupler piping	●
Additional hydraulic circuit	○

UNDERCARRIAGE

Track frame under-guards	●
600 mm triple grouser shoes	●
700, 800 mm triple grouser shoes	○
600 mm road-liner (rubber) shoes	○
Full length track roller guards	○

CABIN

Reinforced safety SpaceCab™; Highly pressurised and tightly sealed hyper viscous mounted cab with tinted safety glass windows, large roof hatch, pull-up type front window with locking device, removable lower window, front window wiper with intermittent feature, 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	●
Radio	●
Lower wiper	○

SERVICE AND MAINTENANCE

Automatic fuel line de-aeration	●
Double element type air cleaner with dust indicator and auto dust evacuator	●
KOMTRAX™ - Komatsu satellite 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	●

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	●

WORK EQUIPMENT

Mono boom	●
2,4 m; 2,9 m arms (HCU assembly includes piping for one additional function)	○
Komatsu buckets	○
Komatsu breakers	○

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	○
OPG Level II front guard (FOPS)	○
OPG Level II top guard (FOPS)	○

LIGHTING SYSTEM

Working lights: 1 revolving frame and 1 boom (r.h.)	●
Additional working lights: 5 cab roof, 1 boom (l.h.), 1 counterweight (rear), additional revolving frame (l.h.), beacon and harness for 2 lamps (not included) in boom foot area	○

OTHER EQUIPMENT

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:

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