

KOMATSU

PC78US-8

OPERATING WEIGHT

6.945 - 7.535 kg

ENGINE POWER

42,8 kW / 57 HP @ 1.950 rpm

BUCKET CAPACITY

0,09 - 0,34 m³

PC
78US-8

MIDI-EXCAVATOR



PC78US-8

WALK-AROUND

Ecology & Economy Features

- The powerful turbocharged and air-to-air aftercooled Komatsu SAA4D95LE-5 provides 42,8 kW/57 HP. The engine meets EU Stage IIIA and Interim Tier 4 emission regulations.
- Low operating noise.

Productivity Features

- Short tail swing radius
Safe operation with small tail swing even in confined areas.
Tail swing radius: 1.240 mm

High mobility

- Large drawbar pull and steering force display its ability when operating on a slope.
Max. drawbar pull:
66,9 kN (6.820 kgf)
- The machine travel speed changes to Hi or Lo automatically at optimal points according to the travel load.

Mode Selection

- Five working modes designed to match engine speed, pump delivery and system pressure.
- Economy mode reduces fuel consumption.
- Eco-gauge assists energy-saving operations.
- Extended idling caution for fuel conservation.

Safety Features

- New, safe SpaceCab™: Tubular design developed specifically for hydraulic excavators to protect the operator in the event of a roll over accident.
- Large side-view and rear-view mirrors.



OPERATING WEIGHT

6.945 - 7.535 kg

ENGINE POWER

42,8 kW / 57 HP @ 1.950 rpm

BUCKET CAPACITY0,09 - 0,34 m³**Large, comfortable Cab**

- Low-noise design.
- Sliding convex door facilitates easy entrance in confined areas.
- Wide, spacious cab.

Large TFT Monitor

- Improved operator interface through Komatsu developed information technology. (TFT: Thin Film Transistor)
- Displays data in 10 languages to support operators around the world.

**Easy Maintenance**

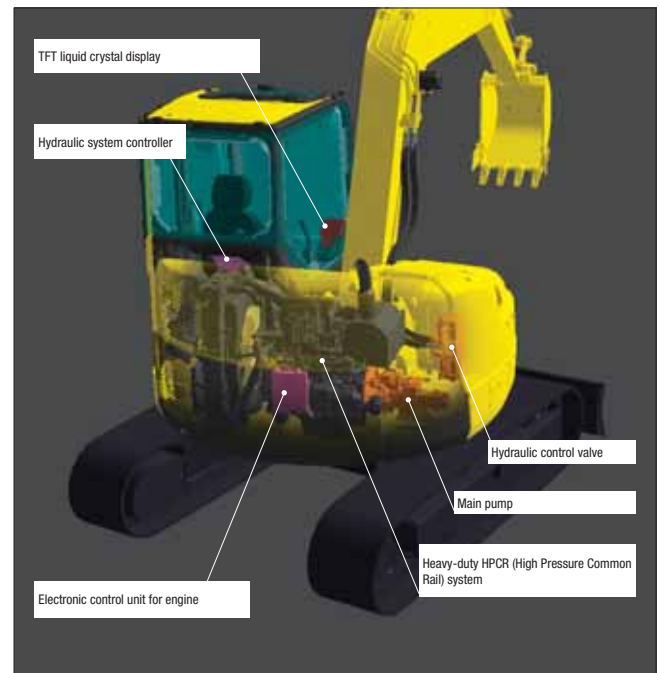
- Easier radiator cleaning due to side-by-side oil cooler and radiator.
- Easy access to the engine oil filter, engine main fuel filter and fuel drain valve.
- Standard-equipped fuel pre-filter with water separator.
- EMMS (Equipment Management and Monitoring System)

PRODUCTIVITY & ECOLOGY FEATURES



Reliable components

All of the major machine components (such as the engine, hydraulic pump, hydraulic motor and control valves) are designed and manufactured by Komatsu. This guarantees that each component is expressly built for the class and model of machine. This ensures that the engineering, manufacturing standards and testing that go into each component are 'totally Komatsu'.



Low-emission engine

The Komatsu SAA4D95LE-5 engine meets EPA Interim Tier 4, and EU Stage IIIA emissions regulations.



Reduced noise levels

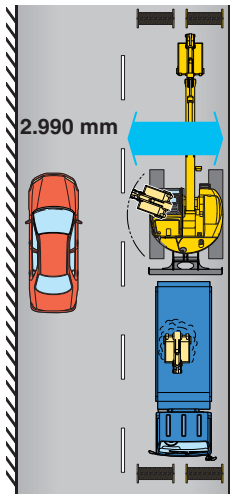
Reduced noise levels during operation due to low-noise engine and other developments.

- Electronically controlled common rail engine
- Multi-staged injection
- Partition between the cab and engine room
- Optimal arrangement of sound-absorbing materials



Safe operation with small tail swing even in confined areas

Road & bridge work



Short tail swing radius & short implement swing radius



High mobility

The PC78US-8 exceptional travel performance is provided by large drawbar pull and single pump with double flow, and it demonstrates superb maneuverability while operating at its optimum travel speed. It exhibits a large drawbar pull for moving on job sites, traveling in rough terrain and climbing steep slopes.

Maximum drawbar pull: 66,9 kN 6.820 kgf

Auto-decel

Engine speed automatically slows down when all control levers are set in neutral to minimize fuel consumption.

Automatic two-speed travel

Travel speed is automatically shifted from high to low speed, according to the travel pressure.

Working modes

The PC78US-8 excavator is equipped with five working modes (P, E, L, B and ATT mode). Each mode is designed to match engine speed and pump speed with the current application. This provides the flexibility to match equipment performance to the job at hand.

Working mode	Application	Advantage
P	Power mode	<ul style="list-style-type: none"> Maximum production/power Fast cycle times
E	Economy mode	<ul style="list-style-type: none"> Excellent fuel economy
B	Breaker mode	<ul style="list-style-type: none"> Optimum engine RPMs and hydraulic flow
L	Lifting mode	<ul style="list-style-type: none"> Engine rpm reduction
ATT	Attach.mode	<ul style="list-style-type: none"> Optimum engine RPMs, hydraulic flow, 2 way

- P** Work priority
P mode
- E** Fuel priority
E mode
- L** L mode
- B** B mode
- ATT** ATT mode



Eco-gauge assists energy-saving operations

The Eco-gauge can be seen on the right hand side of the monitor. Working within the green range for environmentally friendly, energy-saving operations reduces CO₂ emissions and fuel consumption.



Eco-gauge

Idle caution

To prevent unnecessary fuel consumption, an idling caution is displayed on the monitor if the engine idles for 5 minutes or more.



WORKING ENVIRONMENT



Multi-position controls

The multi-position, pressure proportional control levers allow the operator to work in comfort while maintaining precise control. A double-slide mechanism allows the seat and controllers to move together or independently, allowing the operator to position the controllers for maximum productivity and comfort.

Low-noise design

The cab is highly rigid and has excellent sound absorption ability. Thorough improvement of noise source reduction and use of low noise engine, hydraulic equipment, and air conditioner allows this machine to generate a low level of noise.

Wide, spacious cab

Komatsu's large cab meets ISO working space standards to provide secure, safe, and comfortable operation.



Pressurised cab

An air conditioner and air filter are fitted as standard.

Together with a higher internal air pressure, they reduce dust entry into the cab.



Sliding convex door

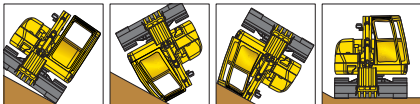
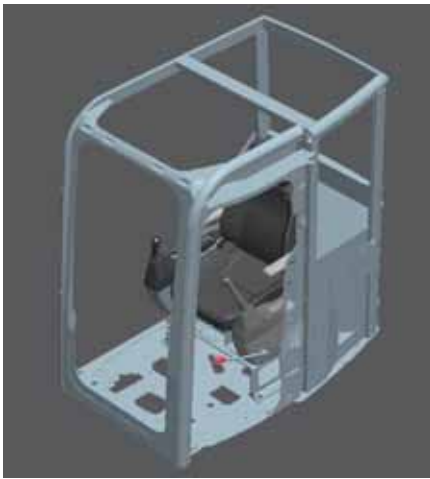
The sliding convex door facilitates easy entrance in confined areas while reducing the danger of being damaged on roadways because the door does not protrude when open.



SAFETY FEATURES

New, safe SpaceCab™

Specifically developed for Komatsu excavators, the new cab is designed with a tubular steel frame. The framework provides high durability and impact resistance with very high impact absorbancy. The seat belt keeps the operator in the safety zone of the cab in the event of a roll over.



Superb visibility

Excellent all-round visibility is provided by large panoramic windows.

Lock lever

Locks the hydraulic pressure to prevent unintentional movement. Neutral start function only allows machine to be started in lock position.



Seat belt

The seat belt keeps the operator in the safety zone of the cab in the event of a roll over.

Start-to-travel alarm

An alarm is installed as a standard equipment to give other workers a warning that the machine will start to travel.

Thermal and fan guards

Placed around high-temperature parts of the engine. The fan belt and pulleys are well protected.

Pump/engine room partition

Prevents hydraulic oil from spraying onto the engine to reduce the risk of fire.



Large side-view and rearview mirrors

Large side mirror and rear mirror allow the machine to meet the new ISO visibility requirements.

Openable skylight

Provides upper visibility.

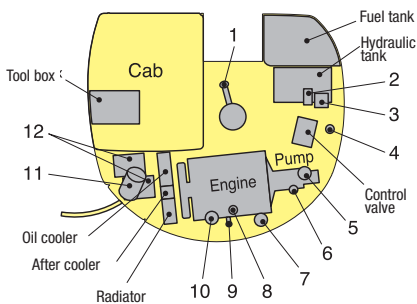


MAINTENANCE FEATURES

Easy maintenance

Komatsu designed the PC78US-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 PC78US-8:

Optimum maintenance layout



1. Swing machinery oil filler & dipstick
2. Windshield washer tank
3. Coolant reserve tank
4. Fuel drain valve
5. Fuel pre-filter (with water separator)
6. PTO oil filler
7. Engine oil filter
8. Engine oil filler
9. Engine oil dipstick
10. Fuel main filter
11. Air cleaner
12. Batteries



Side-by-side cooling

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



Water separator

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



Air conditioner filter

Easy removal/installation of the air conditioner filter element, without tools facilitates easier cleaning.



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

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



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.

Large multi-lingual TFT monitor

A large user-friendly color monitor enables safe, accurate and smooth work. Screen visibility is improved through a TFT liquid crystal display that can be easily read at various angles and in various lighting conditions.

- Simple and easy-to-operate switches
- Industry first function keys facilitate multi-function operations
- Displays data in 10 languages to support operators around the world



- 1 Auto deceleration
- 2 Working mode
- 3 Travel speed
- 4 Engine water temperature gauge
- 5 Hydraulic oil temperature gauge
- 6 Fuel level gauge
- 7 Eco-gauge
- 8 Function switch menu

- 1 Auto deceleration
- 2 Working mode
- 3 Travel speed
- 4 Buzzer cancel
- 5 Window wiper
- 6 Window washer

EMMS (Equipment Management and Monitoring System)

Monitor function

The controller monitors engine oil level, coolant temperature, battery charge and air clogging, etc. If the controller finds any abnormality, it is displayed on the LCD.



Maintenance function

The monitor indicates when the replacement interval has been reached for the oil and filters.



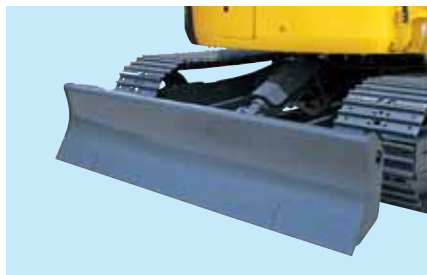
Trouble data memory

The monitor stores and recalls abnormalities for effective troubleshooting.

Options



450 mm road-liner shoes



Blade



Additional counterweight

SPECIFICATIONS



ENGINE

Model	Komatsu SAA4D95LE-5
Type	Direct injection, water-cooled, emissionised, turbocharged, after-cooled diesel
Engine power	
at rated engine speed	1.950 rpm
ISO 14396	42,8 kW / 57 HP
ISO 9249 (net engine power)	41 kW / 55 HP
No. of cylinders	4
Bore × stroke	95 × 115 mm
Displacement	3,26 ltr
Starter motor	24 V/4,5 kW
Alternator	24 V/35 A
Battery	2 × 12 V/55 Ah
Air filter type	Double element type with monitor panel dust indicator and auto dust evacuator



HYDRAULIC SYSTEM

Type	HydrauMind. Closed-centre system with load sensing and pressure compensation valves
Main pumps:	
Type	Variable displacement, axial piston
Maximum pump flow	160 ltr/min
Type (for machine with blade)	Fixed displacement gear
Maximum pump flow	63 ltr/min
Hydraulic motors:	
Travel	2 x piston motor with parking brake
Swing	1 x piston motor with swing holding brake
Relief valve setting:	
Implement, travel circuit	26,5 MPa/270 kgf/cm ²
Swing circuit	20,6 MPa/210 kgf/cm ²
Blade circuit (Raise)	12,7 MPa/130 kgf/cm ²
Blade circuit (Lower)	21,1 MPa/215 kgf/cm ²
Hydraulic cylinders:	
Blade circuit (Number of cylinders – bore × stroke × rod diameter)	
Blade circuit Boom	1–115 mm × 858 mm × 65 mm
Blade circuit Arm	1–100 mm × 861 mm × 60 mm
Blade circuit Bucket	1–90 mm × 710 mm × 55 mm
Blade circuit Blade	1–130 mm × 130 mm × 65 mm



ENVIRONMENT

Engine emissions	Fully complies with EU Stage IIIA and EPA Interim Tier 4 exhaust emission regulations
Vibration levels (EN 12096:1997)*	
Hand/arm	≤ 2,5 m/s ² (uncertainty K = 0,27 m/s ²)
Body	≤ 0,5 m/s ² (uncertainty K = 0,13 m/s ²)
* for the purpose of risk assessment under directive 2002/44/EC, please refer to ISO/TR 25398:2006.	



SWING SYSTEM

Driven by	Hydraulic motor
Swing reduction	Planetary gear
Swing circle lubrication	Grease-bathed
Swing lock	Mechanical disc brake
Swing speed	10 rpm



DRIVES AND BRAKES

Steering control	2 levers with pedals giving full independent control of each track
Drive method	Hydrostatic
Max. drawbar pull	66,9 kN/6.820 kgf
Max. travel speeds	
Lo / Hi	5,0 / 2,9 km/h
Service brake	Hydraulic lock
Parking brake	Mechanical disc



UNDERCARRIAGE

Construction	X-frame centre section with box section track-frames
Track assembly	
Type	Fully sealed
Shoes (each side)	39
Tension	Combined spring and hydraulic unit
Rollers	
Track rollers (each side)	5
Carrier rollers (each side)	1



COOLANT AND LUBRICANT CAPACITY (REFILLING)

Fuel tank	125 ltr
Radiator	10 ltr
Engine	11,5 ltr
Final drive (each side)	1,1 ltr
Swing drive	2,0 ltr
Hydraulic tank	100 (56) ltr

**OPERATING WEIGHT**

Operating weight including 3.710 mm mono boom, 1.650 mm arm, SAE heaped 0,28 m³ backhoe bucket, blade, rated capacity of lubricants, coolant, full fuel tank, operator, and standard equipment.

	Shoe width	Operating weight	Ground pressure
With blade	450 mm	7.365 kg	0,34 kg/cm ²
	600 mm	7.535 kg	0,26 kg/cm ²
Without blade	450 mm	6.945 kg	0,32 kg/cm ²
	600 mm	7.115 kg	0,24 kg/cm ²

**BUCKET AND ARM COMBINATION**

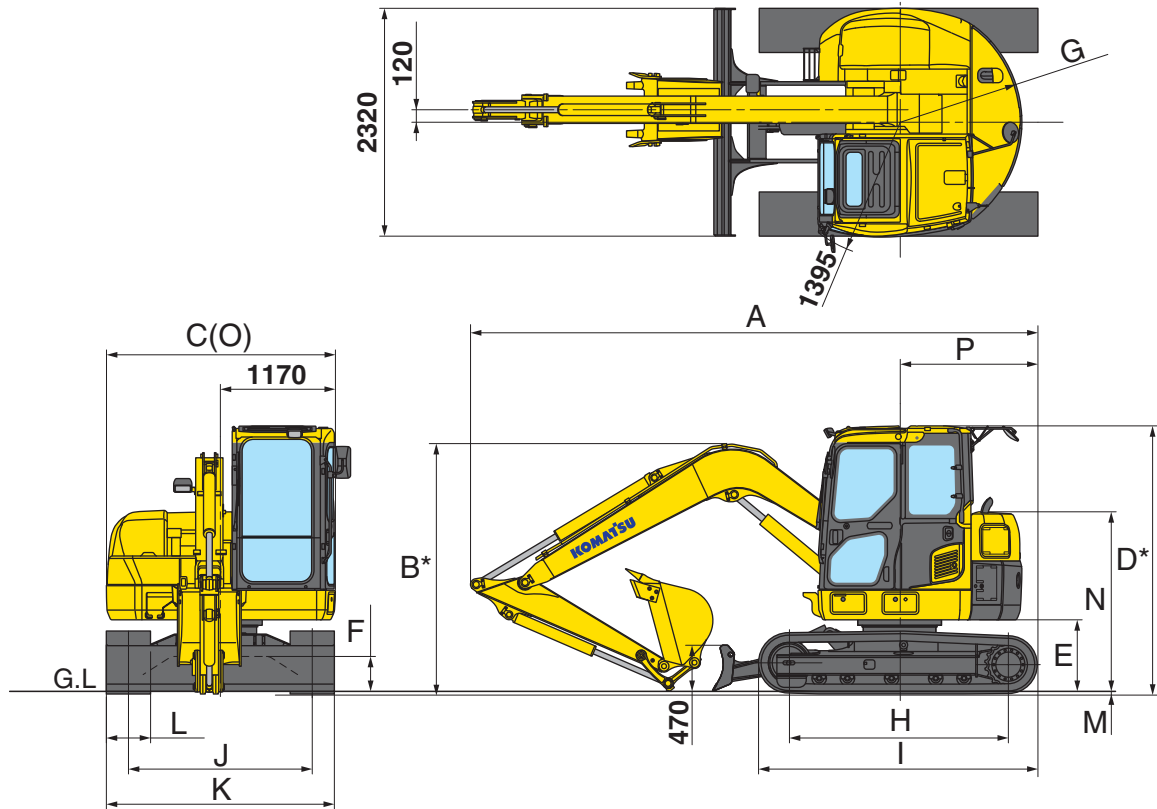
Bucket capacity	Bucket width		Bucket weight	No. of teeth	Arm length	
(SAE, heaped) ISO 7451	Without side cutters	With side cutters			1.650 mm	2.250 mm
0,09 m ³	350 mm	450 mm	145 kg	3	○	○
0,12 m ³	450 mm	550 mm	160 kg	3	○	○
0,20 m ³	550 mm	650 mm	185 kg	3	○	○
0,28 m ³	650 mm	750 mm	210 kg	4	○	X
0,34 m ³	755 mm	–	210 kg	4	□	X

○ General digging □ Light-duty operation X Not available

**BUCKET AND ARM FORCE (ISO)**

Arm length	1.650 mm	2.250 mm
Bucket digging force	61,3 kN (6.250 kgf)	61,3 kN (6.250 kgf)
Arm crowd force	41,5 kN (4.230 kgf)	34,5 kN (3.520 kgf)

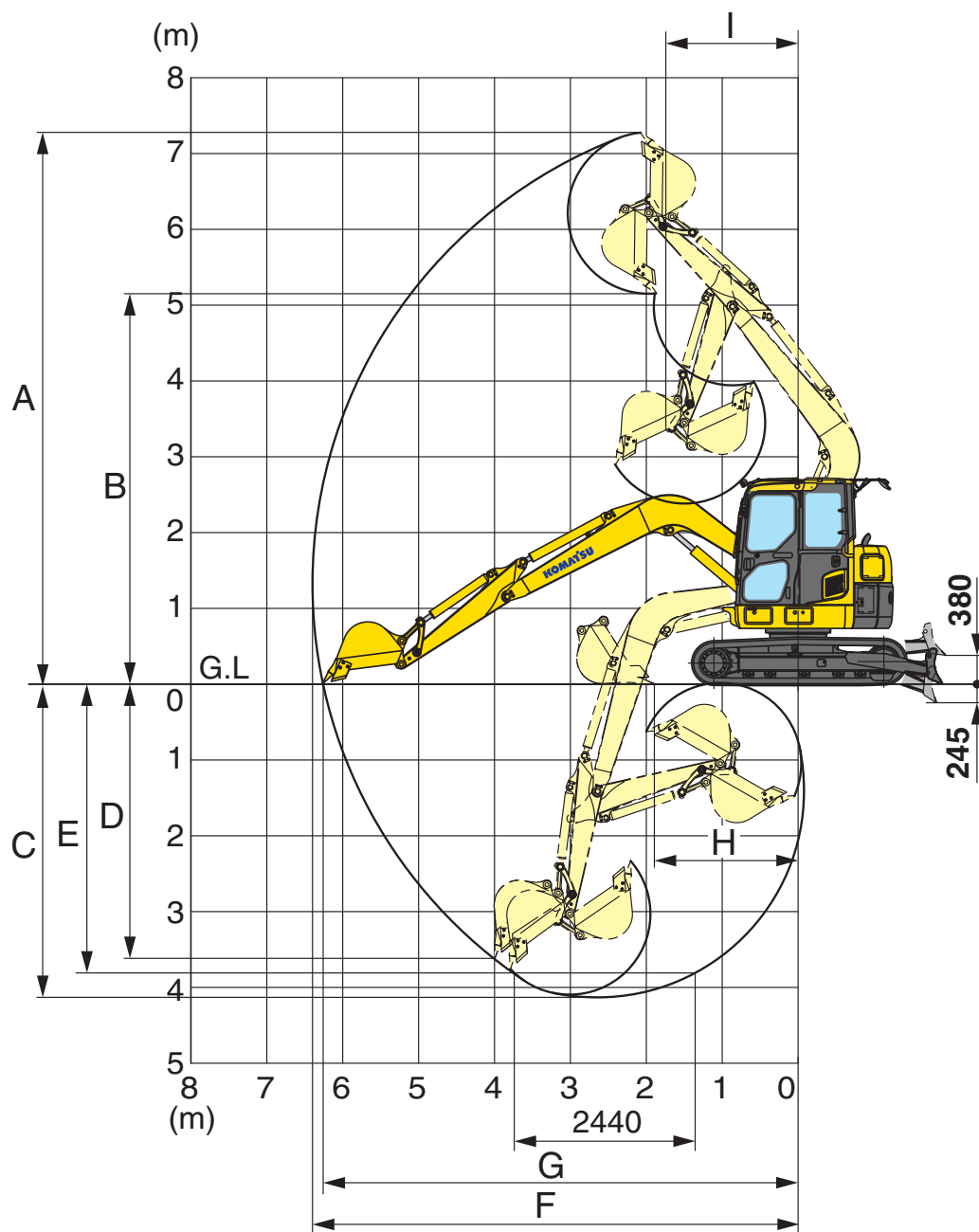
DIMENSIONS



	Boom length	3.710 mm	3.710 mm
	Arm length	1.650 mm	2.250 mm
A	Overall length	5.770 mm	6.295 mm
B	Overall height (to top of boom)*	2.555 mm	2.870 mm
C	Overall width	2.330 mm	
D	Overall height (to top of cab)*	2.730 mm	
E	Ground clearance, counterweight	735 mm	
F	Minimum ground clearance	360 mm	
G	Tail swing radius	1.240 mm	
H	Length of track on ground	2.235 mm	
I	Track length	2.840 mm	
J	Track gauge	1.870 mm	
K	Width of crawler	2.320 mm	
L	Shoe width	450 mm	
M	Grouser height	20 mm	
N	Machine cab height	1.835 mm	
O	Machine cab width	2.330 mm	
P	Distance swing center to rear end	1.405 mm	

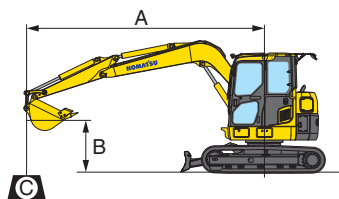
* including grouser height

WORKING RANGE



	Boom length	3.710 mm	3.710 mm
	Arm length	1.650 mm	2.250 mm
A	Max. digging height	7.300 mm	7.600 mm
B	Max. dumping height	5.180 mm	5.500 mm
C	Max. digging depth	4.100 mm	4.710 mm
D	Max. vertical wall digging depth	3.610 mm	4.030 mm
E	Max. digging depth of cut for 2440 mm level	3.770 mm	4.430 mm
F	Max. digging reach	6.380 mm	6.920 mm
G	Max. digging reach at ground	6.240 mm	6.790 mm
H	Minimum digging reach at ground	1.900 mm	1.735 mm
I	Minimum swing radius	1.750 mm	2.050 mm

LIFTING CAPACITY



A – Reach from swing centre

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.

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

Bucket: 0,28 m³ Shoe width: 450 mm Without blade

1.650 mm	5,0 m	*1.780	1.430			*1.790	*1.790		
	3,0 m	1.160	860	1.500	1.130	*2.300	2.280		
	0,0 m	1.050	760	1.370	1.000	2.650	1.900		
	-2,0 m	1.440	1.050	1.360	1.000	*2.630	1.890	*4.060	*4.060

Bucket: 0,20 m³ Shoe width: 450 mm Without blade

2.250 mm	5,0 m	*1.420	1.090	*1.490	1.200				
	3,0 m	980	720	1.540	1.170	*1.870	*1.870		
	0,0 m	880	640	1.370	1.000	2.660	1.920		
	-2,0 m	1.120	820	1.330	960	2.590	1.850	*4.230	*4.230

Bucket: 0,28 m³ Shoe width: 450 mm With blade at ground level

1.650 mm	5,0 m	*1.780	1.500			*1.790	*1.790		
	3,0 m	*1.670	910	*1.780	1.190	*2.300	*2.300		
	0,0 m	*1.710	810	*2.120	1.060	*3.360	2.010		
	-2,0 m	*1.650	1.120	*1.510	1.060	*2.710	2.000	*4.060	*4.060

Bucket: 0,20 m³ Shoe width: 450 mm With blade at ground level

2.250 mm	5,0 m	*1.420	1.150	*1.490	1.260				
	3,0 m	*1.350	770	*1.570	1.230	*1.870	*1.870		
	0,0 m	*1.520	680	*2.090	1.060	*3.320	2.020		
	-2,0 m	*1.540	870	*1.880	1.020	*3.010	1.950	*4.230	*4.230

* 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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MIDI-EXCAVATOR

STANDARD EQUIPMENT

- Komatsu SAA4D95LE-5 turbocharged direct injection diesel engine, EU Stage IIIA compliant
- Double element type air cleaner with dust indicator and auto dust evacuator
- Suction type cooling fan
- Auto-deceleration function
- Alternator 24 V/35 A
- Batteries 2 × 12 V/55 Ah
- Starter motor 24 V/4,5 kW
- Electronic closed-centre load sensing (E-CLSS) hydraulic system (HydrauMind)
- Multi-function video compatible colour monitor with equipment management monitoring system (EMMS) and efficiency guidance
- 5-working mode selection system; Power mode, economy mode, breaker mode, attachment mode and lifting mode
- Reinforced safety SpaceCab™; Highly pressurised and tightly sealed cab with tinted safety glass windows, large roof hatch, pull-up type front window, removable lower window, front window wiper with intermittent feature, floor mat
- Suspension seat with seat belt
- Automatic climate control system
- Lights; 1 cab roof light and 1 boom light
- 450 mm triple grouser shoes
- 1.650 mm arm

OPTIONAL EQUIPMENT

- 2.250 mm arm
- 600 mm triple grouser shoes
- 450 mm road-liner shoes
- 450 mm rubber shoes
- Sun visor
- Additional working lamps on cab
- Additional counterweight 220 kg
- Komatsu buckets
- Komatsu breakers

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