

PC78US-11

EU Stage V Engine

MIDI-EXCAVATOR



ENGINE POWER

50,7 kW / 68,0 HP @ 1.900 rpm

OPERATING WEIGHT

7.910 - 8.080 kg

BUCKET CAPACITY

0,09 - 0,20 m³

Walk-Around



ENGINE POWER

50,7 kW / 68,0 HP @ 1.900 rpm

OPERATING WEIGHT

7.910 - 8.080 kg

BUCKET CAPACITY

0,09 - 0,20 m³





EXCEPTIONAL PERFORMANCE IN TIGHT SPACES

Powerful and Environmentally Friendly

- New, high output 2,4-liter engine
- Top-class efficiency:
 Fuel efficiency: P mode 23% up, E mode 29% up (Compared to PC78US-10)
- Top-class low noise: Reduced by 2,2 dB(A) (Compared to PC78US-10)

First-Class Comfort

- Spacious and comfortable cab
- Suspension seat (standard)
- Multi-function audio

Safety First

• Rear view monitor system as standard equipment

Workability Features

- Top-class digging performance Productivity: P mode 8% up, E mode 9% up (Compared to PC78US-10)
- Leveling work speed 18% up (Compared to PC78US-10)
- Hoist swing and lift rate 12% up (Compared to PC78US-10)
- Hydraulic flow to the attachment 12% up (Compared to PC78US-10)
- Automated attachment conversion using monitor
- Improved blade efficiency when moving soil
- LED lamps (standard)

Maintenance & Robustness Features

- Enlarged body cover apertures
- Easy to clean cooling unit area
- Centralized configuration of fuel/oil filters
- Enclosed cooling system



Powerful and Environmentally Friendly

New high output 2,4-liter engine

Komatsu's new, in house-developed high output 2,4-liter engine can meet all user requirements. Its digging efficiency and environmental performance are top-of the class, offering both high power and low fuel consumption even with a more compact engine. Centralizing filtering reduces the time and effort spent on maintenance.



Top-class efficiency

Improved Total Vehicle Control enable optimum performance under the widest variety of operational conditions. Thanks to improvements including such as variable speed matching of engine speed according to hydraulic pump output, reduction of hydraulic pressure loss and a fan clutch. All these features dramatically reduce fuel consumption, while enabling higher operating speeds.

Fuel efficiency (90°dump loading)

P mode

E0 mode

23% UP 29% UP

Compared to PC78US-10
Data based on in-house test results.

Compared to the current P mode, the new E0 mode in the PC78US-11 reduces fuel consumption without degrading the work rate.

Fuel consumption

E0 mode

Reduction 24%

Compared to PC78US-10
Data based on in-house test results.

Top-class low noise

A more compact engine produces space for a fan clutch system allowing engine and hydraulic system turning using a variable matching control system which reduces noise, and makes the machine environmentally friendly.

Surrounding noise

Reduced 2,2 dB (A)

Compared to PC78US-10
Data based on in-house test results.



Further promotion of cleanliness and economy

- Working mode selectable
- Eco guidance
- Eco gauge & fuel consumption gauge
- Auto-decelerator

High-Pressure Common Rail (HPCR)

To achieve complete fuel burn and lower exhaust emissions, the heavy-duty High-Pressure Common Rail fuel injection system is computer controlled to deliver a precise quantity of pressurised fuel into the redesigned engine combustion chamber by multiple injections. The improved system provides higher injection pressure, reducing PM emissions and fuel consumption.

Exhaust Gas Recirculation (EGR)

Cooled EGR is a technology well-proven in current Komatsu engines. The increased capacity of the EGR cooler now ensures very low NOx emissions and a better engine performance.

Electronic control system

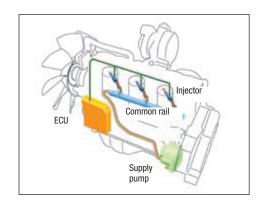
The electronic control system performs high-speed processing of all signals from sensors installed in the vehicle and engine to control equipment in different conditions of use. Conditions of the engine are displayed via an on-board network on the monitor inside the cab, providing necessary information to the operator. Furthermore, managing the information via KOMTRAX helps customers engage in appropriate maintenance.

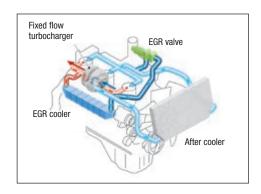
Komatsu Diesel Particulate Filter (KDPF)

The KDPF was developed and manufactured in-house using a diesel oxidation catalyst and soot filter, for maximal filtration of particulate matter, which is then burned and removed.

Adjustable idle shutdown

The Komatsu auto idle shutdown automatically turns off the engine after it idles for a set period of time. This feature can easily be programmed from 5 to 60 minutes, to reduce unnecessary fuel consumption and exhaust emissions, and to lower operating costs.







Workability Features

Top-class digging performance

Digging performance is even better than before.

Overall operating performance is improved greatly by the higher digging speed and smooth integration of multiple operational controls. This reduces stress on the operator.

Productivity (90° dump loading)

P mode

8% increase

E0 mode

9% increase

Compared to PC78US-10

Data based on in-house test results.



Improved leveling work speed / hoist swing and lift rate

Quicker arm speed makes levelling work and teeth alignment easier and faster. With the higher digging speed and faster hoist swing and lift rate, even the toughest jobs are handled with ease.

Leveling work speed

18% UP

Compared to PC78US-10
Data based on in-house test results.

Hoist swing and lift rate

12% UP

Compared to PC78US-10
Data based on in-house test results.

Better hydraulic flow to attachments

Even with attachments requiring large amounts of hydraulic flow, operation can be smooth and easy.

Hydraulic flow to the attachment

12% UP

Compared to PC78US-10
Data based on in-house test results.

Automated attachment conversion using monitor

Equipped with universal piping for attachments such as breakers or crushers, conversion to low-pressure mode requires only a push of the breaker mode switch on the monitor.



Improved blade efficiency when moving soil

The shape and profile of the blade has been optimized to reduce soil spilling in back of the blade, making soil moving more efficient.



LED lamps

LED lamps are equipped on the boom and cab. The visibility under low light environment is improved, and work at night with ease.



Automatic travel speed change and travel switch

The travel speed selector switch installed on the blade control lever allows the operator to engage high speed travel. Once engaged, the travel speed automatically shift up or down



within the selected speed range.

Improved stability

A heavier counter weight improves machine stability. Greater stability makes for more comfortable operation.



Equipped with a blade as standard equipment

A blade for efficient back-filling and leveling work is equipped as standard. The dedicated pump for the blade enables smooth dozing operation. A bolt-on cutting edge blade that enables easy replacement of worn edges is optional.



Maintenance & Robustness Features

Enlarged body cover apertures

Body cover apertures are bigger for better accessibility and a larger work space for maintenance.

Easy to clean cooling unit area

Modification of body panel construction makes cleaning around the cooling unit easier, even at the site with dust and sawdust.

- 1. Easily detachable integrated dust net (Optional)
- 2. Openable air conditioner condenser, easy to clean with an air
- 3. Sawdust and dust are easily cleaned using air blown through the dust discharge cover and blow hole

Enclosed cooling system

This system not only makes cooling more efficient, but also maintenancefree until the next coolant change.







Centralized configuration of fuel/oil filters

The new layout centralizes fuel/oil filters at just the right height for easy access. This reduces the labor and stress involved in periodic inspections.







Fuel drain valve

Engine oil drain valve

The new engine oil drain valve makes draining engine oil an easy one-touch operation.

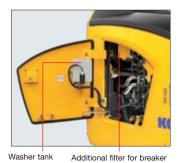
New easy to fill, fuel filler port

The new front right cover has a two-step lock system, which makes it possible to fill the fuel from ground level.



New washer tank

and additional filter for breaker are accessible from ground level.



Washer tank

Easy to clean, new floor mat

Removing the floor mat for the cleaning is easy since it is not fixed by bolts.



High-performance air conditioner filter (Optional)

A filter optimized for collecting particulate matter protects the air conditioner.



Air conditioner compressor belt autotensioner

For free maintenance of air conditioner compressor belt tension adjustment.

Battery disconnect switch

A standard battery disconnect switch allows a technician to disconnect the power supply and lock out before servicing the machine.



Long-life oil & filters

Engine oil & engine oil filter	every 500 hours
Hydraulic oil	every 5000 hours
Hydraulic oil filter	every 1000 hours



Hydraulic oil filter

"Maintenance time caution lamp" display

When the remaining time to maintenance becomes less than 30 hours*, the maintenance time monitor appears. Pressing the F6 key switches the monitor to the maintenance screen.

*: The setting can be changed within the range between 10 and 200 hours.



Air Cleaner Cleaning or Groupe	-	
Amure comp.		
Mark Statistics States		
(tour transmit		
Distance College Description		

Maintenance screen

Safety First

Short implement swing radius

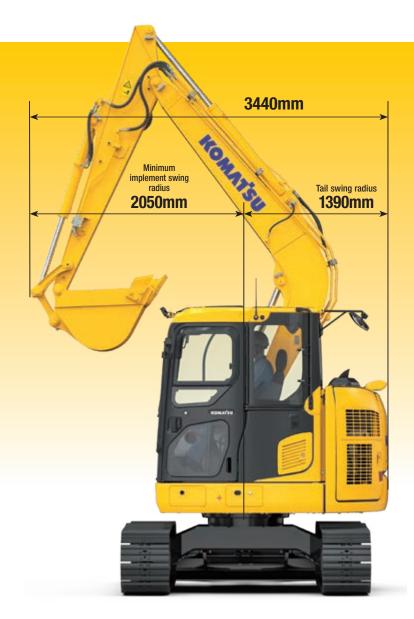
3.710 mm – Boom raising angle of the PC78US-11 is larger than on a conventional profile excavator, while front implement protrusion is lessened.

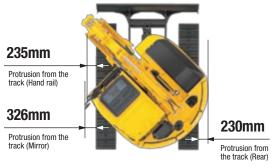
Short tail swing radius

1.390 mm – Because the tail of the PC78US-11 is more compact than conventional models, the PC78US-11 reduces the operator's need to check behind him for movement.

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.







Right side visibility

Visibility on the right has been improved through modification of the front right cover.



Lock lever

When lock lever is placed in lock position all hydraulic controls (Travel, swing, boom, arm, bucket and blade) are inoperable.



Lock lever auto lock function

If the work equipment lever is not in the neutral position when the hydraulic lock lever is released, the equipment is automatically stopped. The



auto stop state is shown on the monitor screen.

ROPS cab (ISO 12117-2)

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. Optionally it can be fitted with an ISO 10262 Level



2 Operator Protective Guard (OPG) with openable front guard.

Rear view monitor system

The operator can view the area behind the machine on a color monitor screen.



Crawler steps

Reduce the risk of slipping or falling, making climbing up to and down from the cab safer.



Safety equipment

Secondary engine shut down switch

Engine stop switch added for emergency use.



Seat belt caution indicator



Seat belt retractable
Emergency escape hammer
Tempered & tinted glass
Mirrors (LH, rear)
Travel alarm

Large reflector

KOMATSU

Large reflector

Thermal and fan guards





First-Class Comfort

Comfortable cab and newly added equipment

A cab as wide as a cab on standard size machine is equipped on this machine even though this machine has an extra small rear turning radius.



Low interior noise reducing operator fatigue

A comfortable low noise cab enables longer operation with less fatigue.

Noise level at operator ears

68,9 dB (A)

Suspension seat

The reclining seat has deep side supports for the operator. The backrest angle can be easily adjusted using a pull-up lever for the optimum operating posture.



Multifunction audio

It has functions of AM/FM radio and USB and Bluetooth® wireless technology enabled products can be connected.



Sliding door and round-shaped cab

The sliding door is safer than the hinged type, alongside walls, in narrow spaces, or in densely populated areas since no margin is required for hinged opening.

It reduces the possibility of "dooring" people or objects, causing injury or damage. Since the cab is round-shaped, it is easy to enter or leave in narrow spaces.



Standard Equipment

USB port



Room light



Sliding window (left side)

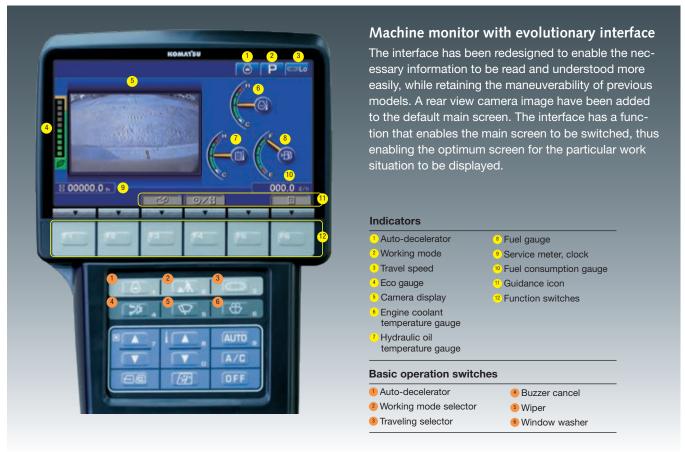


Pull-up front window Remote intermittent wiper with windshield washer Opening & closing skylight Defroster

(Conform to ISO standard)

Magazine box & cup holder

Information & Communication Technology



Eco guidance

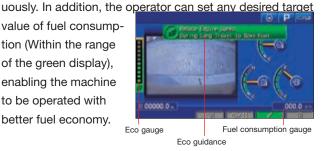
While the machine is operating, Eco guidance pops up on the monitor screen to notify the operator of the status of the machine in real time.

- · Avoid excessive engine idling
- Use economy mode to save fuel
- · Avoid hydraulic relief pressure
- Reduce engine speed during long travel to save fuel

Eco gauge & fuel consumption gauge

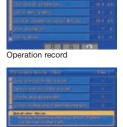
The monitor screen is provided with an Eco gauge and also a fuel consumption gauge which is displayed contin-

value of fuel consumption (Within the range of the green display), enabling the machine to be operated with better fuel economy.



Operation record, fuel consumption history, and Eco guidance record

The Eco guidance menu enables the operator to check the operation record, fuel consumption history and Eco guidance record from the Eco quidance menu, using a single touch, thus enabling the total fuel consumption to be reduced.



Eco guidance record

Visual user menu

Pressing the F6 key on the main screen displays the user menu screen. The menus are grouped for each function, and use easy-to-understand icons which enable the machine to be more intuitively.



Specifications

ENGINE

Model	Komatsu SAA3D95E-1
Туре	Common rail direct injection, water- cooled, emissionised, turbocharged, after-cooled diesel
Engine power	
at rated engine speed	1.900 rpm
ISO 14396	50,7 kW/68,0 HP
ISO 9249 (net engine power)	50,6 kW/67,9 HP
No. of cylinders	3
Bore × stroke	95 × 115 mm
Displacement	3,26
Air filter type	Double element type with monitor panel dust indicator and auto dust evacuator
Cooling	Suction type cooling fan
Fuel	Diesel fuel, conforming to EN590 Class 2/Grade D. Paraffinic fuel capability (HVO, GTL, BTL), conforming to EN 15940:2016

HYDRAULIC SYSTEM

Type	HydrauMind. Closed-centre system
	with load sensing and pressure
	compensation valves
Number of selectable	6
working modes	
Main pumps	
Pumps for	Boom, arm, bucket, swing and travel
Туре	Variable displacement, axial piston
Max. flow	168 l/min
Pump for	Blade
Туре	Fixed displacement gear pump
Max. flow	63 l/min
Hydraulic motors	
Travel	2 x axial piston motors
	with parking brake
Swing	1 × piston motor
	with swing holding brake
Relief valve setting	
Implement	26,5 MPa (270 kgf/cm²)
Travel	27,0 MPa (275 kgf/cm²)
Swing	20,6 MPa (210 kgf/cm²)
Pilot	3,2 MPa (33 kgf/cm²)
Blade	21,1 MPa (215 kgf/cm²)
(Number of cylinders – bo	re x stroke x rod diameter)
Boom	1–115 mm x 858 mm x 65 mm
Arm	1–100 mm x 861 mm x 60 mm
Bucket	1–90 mm x 710 mm x 55 mm
Blade	1–130 mm x 130 mm x 65 mm

SWING SYSTEM

Drive method	Hydrostatic
Swing reduction	Planetary gear
Swing circle lubrication	Grease-bathed
Service brake	Hydraulic lock
Holding brake/Swing lock	Mechanical disc brake
Swing speed	10 rpm

DRIVES AND BRAKES

Steering control	Two levers with pedals
Drive method	Hydrostatic
Maximum drawbar pull	68.2 kN 6950 kgf
Gradeability	70%, 35°
Maximum travel speed (auto shift):	
High	5,0 km/h
Low	2,7 km/h
Service brake	Hydraulic lock
Parking brake	Mechanical disc brake

UNDERCARRIAGE

Center frame	X-frame
Track frame	Box-section
Seal of track	Sealed track
Track adjuster	Hydraulic
Number of shoes (each side)	39
Number of carrier rollers	1 each side
Number of track rollers (each side)	5

SERVICE REFILL CAPACITIES

Fuel tank	125 l
Coolant	161
Engine	11,5
Final drive, each side	1,1
Swing drive	2,0
Hydraulic tank	56 I

OPERATING WEIGHT (APPR.)

Operating weight, including boom, 2.250 mm arm, 0,20 m³ bucket (ISO 7451), operator, liquids, filled tank and standard equipment (ISO 6016).

Shoes	Operating weight	ht Ground pressure	
450 mm	7.910 kg	0,36 kgf/cm ²	
600 mm	8.080 kg	0,27 kgf/cm ²	
450 mm Roadliner	8.050 kg	0,36 kgf/cm ²	

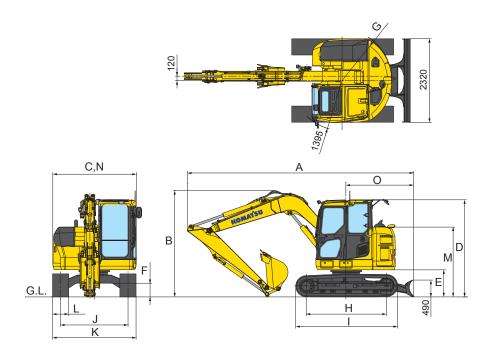
ENVIRONMENT

EITTINGITINEIT			
Engine emissions	Fully complies with EU Stage V exhaust emission regulations		
Noise levels			
LwA external	99 dB(A) (2000/14/EC Stage II)		
LpA operator ear	68,9 dB(A) (ISO 6396 dynamic test)		
Vibration levels (EN 12096:	1997)		
Hand/arm	\leq 2,5 m/s ² (uncertainty K = 0,27 m/s ²)		
Body	\leq 0,5 m/s ² (uncertainty K = 0,13 m/s ²)		
Contains fluorinated greenhouse gas HFC-134a (GWP 1430). Quantity of gas 0,7 kg, CO ₂ equivalent 1,0 t.			

MACHINE DIMENSIONS

	Boom length	3.710 mm
	Arm length	2.250 mm
Α	Overall length	6.295 mm
В	Overall height (to top of boom)	2.940 mm
С	Overall width	2.330 mm
D	Overall height (to top of cab)	2.740 mm
Е	Ground clearance, counterweight	785 mm
F	Ground clearance (minimum)	410 mm
G	Tail swing radius	1.390 mm
Н	Track length on ground	2.235 mm
I	Track length	2.890 mm
J	Track gauge	1.870 mm
K	Width of crawler	2.320 mm
L	Shoe width	450 mm
М	Machine height to top of engine cover	2.060 mm
N	Machine upper width	2.330 mm
0	Distance, swing center to rear end	1.885 mm
	-	-

(Dimensions with road liner)

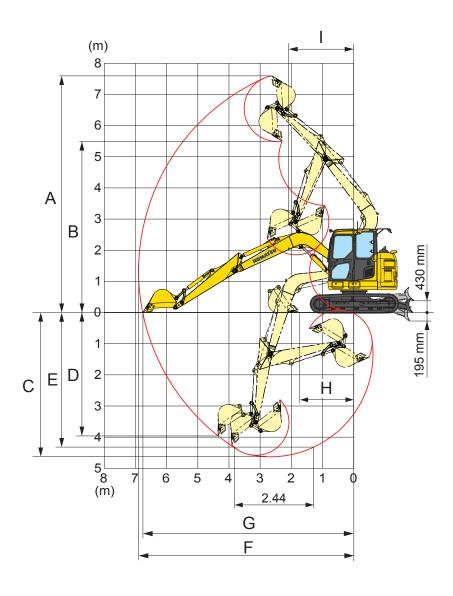


BUCKET AND ARM COMBINATION

Bucket capacity	Bucket width		Bucket weight	No. of teeth	Arm length
(SAE, heaped) ISO 7451	Without side cutters	With side cutters			2.250 mm
0,09 m ³	350 mm	450 mm	145 kg	3	•
0,12 m³	450 mm	550 mm	160 kg	3	•
0,20 m ³	550 mm	650 mm	185 kg	3	•

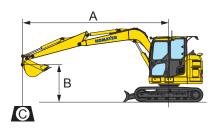
General digging

Working Range



AR	M LENGTH	2.250 mm
Α	Maximum digging height	7.650 mm
В	Maximum dumping height	5.550 mm
С	Maximum digging depth	4.660 mm
D	Maximum vertical wall digging depth	3.980 mm
Е	Maximum digging depth of cut for 2440 mm level	4.380 mm
F	Maximum digging reach	6.920 mm
G	Maximum digging reach at ground	6.780 mm
Н	Minimum digging reach at ground	1.710 mm
I	Minimum swing radius	2.050 mm
	Bucket digging force SAE J 1179	53,3 kN 5.440 kgf
	Arm crowd force SAE J 1179	33,1 kN 3.380 kgf
	Bucket digging force ISO 6015	61,3 kN 6.250 kgf
	Arm crowd force ISO 6015	34,5 kN 3.520 kgf

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 : 2250	mm Bucket	: 0.20 m³ ISO	7451 heaped	Shoe width :	: 450 mm Roa	d Liner Blad	e off ground					
A	1.5 m		2.0 m		3.0 m 4.0		.0 m 5.		m	€Maximum		
В	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs
6.0 m											*1500 kg	*1500 kg
5.0 m											*1320 kg	*1320 kg
4.0 m							*1490 kg	*1490 kg	1420 kg	1200 kg	1250 kg	1050 kg
3.0 m					*1910 kg	*1910 kg	*1680 kg	*1680 kg	1400 kg	1180 kg	1080 kg	900 kg
2.0 m					*2540 kg	*2540 kg	*1970 kg	1640 kg	1360 kg	1140 kg	990 kg	830 kg
1.0 m					3030 kg	2460 kg	1890 kg	1560 kg	1310 kg	1090 kg	960 kg	800 kg
0 m					2920 kg	2340 kg	1820 kg	1490 kg	1270 kg	1050 kg	980 kg	810 kg
-1.0 m	*2160 kg	*2160 kg	*3300 kg	*3300 kg	2850 kg	2270 kg	1770 kg	1450 kg	1240 kg	1030 kg	1060 kg	880 kg
-2.0 m	*4250 kg	*4250 kg	*4370 kg	*4370 kg	2840 kg	2260 kg	1760 kg	1440 kg	1240 kg	1030 kg	1250 kg	1030 kg

Arm : 2250	Arm : 2250 mm Bucket : 0.20 m³ ISO 7451 heaped Shoe width : 450 mm Road Liner Blade on ground											
A	1.5 m		2.0 m		3.0 m 4.0) m 5.0		m	Maximum		
B \	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs
6.0 m											*1500 kg	*1500 kg
5.0 m											*1320 kg	*1320 kg
4.0 m							*1490 kg	*1490 kg	*1480 kg	1200 kg	*1260 kg	1050 kg
3.0 m					*1910 kg	*1910 kg	*1680 kg	*1680 kg	*1540 kg	1180 kg	*1250 kg	900 kg
2.0 m					*2540 kg	*2540 kg	*1970 kg	1640 kg	*1670 kg	1140 kg	*1300 kg	830 kg
1.0 m					*3130 kg	2460 kg	*2250 kg	1560 kg	*1800 kg	1090 kg	*1400 kg	800 kg
0 m					*3370 kg	2340 kg	*2420 kg	1490 kg	*1880 kg	1050 kg	*1550 kg	810 kg
-1.0 m	*2160 kg	*2160 kg	*3300 kg	*3300 kg	*3340 kg	2270 kg	*2420 kg	1450 kg	*1840 kg	1030 kg	*1570 kg	880 kg
-2.0 m	*4250 kg	*4250 kg	*4370 kg	*4370 kg	*3050 kg	2260 kg	*2230 kg	1440 kg	*1570 kg	1030 kg	*1570 kg	1030 kg

Ratings are based on ISO standard 10567. Rated loads do not exceed 87% of hydraulic lift capacity or 75% of tipping load. Excavators used in object handling operations must comply with the related local regulations and must be equipped with hose burst valves (boom & arm) and an overload warning device in compliance with EN474-5.

- The values marked with an asterisk (*) are limited by the hydraulic capacities.
- Calculations are based on the machine resting on a uniform and firm surface.
- The lifting point is a hypothetical hook placed behind the bucket.

Notes

Standard and Optional Equipment

CARIN

ENGINE Komatsu SAA3D95E-1 turbocharged common rail direct injection diesel engine EU Stage V compliant Suction type cooling fan with clutch Automatic engine warm-up system Auto-deceleration function Adjustable idle shutdown Engine ignition can be password secured on request Alternator 24 V/60 A Starter motor 24 V/4,5 kW Batteries 2 × 12 V/55 Ah Dustproof net for radiator, oil cooler, and after cooler

CADIII	
Large roof window, pull-up type front window with locking device, removable lower window, front window wiper with intermittent feature, cigarette lighter, floor mat	•
Suspended seat with adjustable arm rests, and retractable seat belt	•
Automatic climate control system	•
Beverage holder	•
Radio pre-setting	•
Rain visor	•
2 × 12 Volt power supply	•
Radio	0
Rain visor (not with OPG)	0

Automatic fuel line de-aeration Double element type air cleaner with dust indicator and auto dust evacuator KOMTRAX – Komatsu wireless monitoring system Multifunction video compatible colour monitor with Equipment Management and Monitoring System (EMMS) and efficiency guidance LIGHTING SYSTEM LED working light on cab LED working light on boom

Electronic closed-centre load sensing (E-CLSS) hydraulic system (HydrauMind) 6-working mode selection system; power mode, economy mode, breaker mode, attachment power and attachment economy mode, and lifting mode PPC wrist control levers Hydraulic control unit - 1 additional actuator

UNDERCARRIAGE	
450 mm road liner shoes	•
450 mm steel shoes	0
600 mm steel shoes	0
Track frame HD under cover	0

SAFETY EQUIPMENT	
Rer-view camera system	•
Electric horn	
Overload warning device	•
Audible travel alarm	•
Large handrails, rear-view mirrors	•
Battery main switch	•
ROPS (ISO 12117) - OPG (ISO 10262) level 1	•
Emergency engine stop switch	•
Seat belt caution indicator	•
Neutral position detection system	•
Rotating beacon	0
OPG Level 2 top guard	0

WORK EQUIPMENT	
Mono boom	•
2.250 mm arm	•
Blade	•
Wide blade	0
Bolt-on cutting edge for blade	0
Komatsu buckets	0

OTHER EQUIPMENT Heavy counterweight

Further equipment on request

standard equipmentoptional equipment

Your Komatsu partner:



Komatsu Europe International N.V.

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