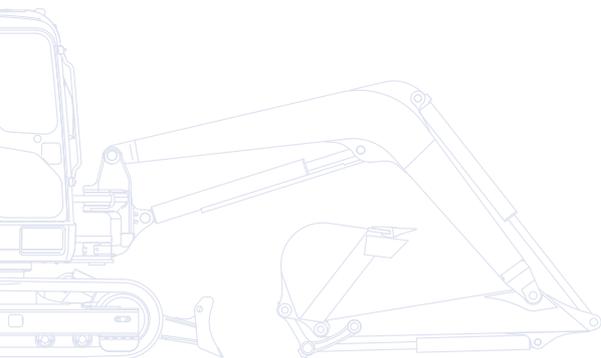


# KOMATSU



**PC**  
**78US**

## Midi-Excavator **PC78US-10**



**ENGINE POWER**  
50,7 kW / 68,0 HP @ 1.950 rpm

**OPERATING WEIGHT**  
7.910 - 8.080 kg

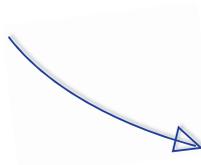
**BUCKET CAPACITY**  
0,09 - 0,34 m<sup>3</sup>

# Walk-Around

The new PC78US-10 compact midi-excavator is the result of the competence and technology that Komatsu has acquired in more than 90 years. Designed and developed with constant attention to the needs of customers from all over the world, the end product is a user-friendly machine with top-class performances and a tight tail swing that protrudes over the tracks by just 230 mm. The operator can concentrate on his work, without having to worry about rear-swing impacts.

## Powerful and environmentally friendly

- Low consumption EU Stage IIIB engine
- Fuel-saving hydraulic technology
- Auto-deceleration and eco-gauge
- 6 working modes
- Low operating noise levels



## Outstanding performances

- Fast and precise
- Large drawbar pull
- Excellent controllability
- 2 automatic travel speeds
- CLSS hydraulic system

**KOMTRAX**

Komatsu Wireless  
Monitoring System



# PC78US-10

**ENGINE POWER**  
50,7 kW / 68,0 HP @ 1.950 rpm

**OPERATING WEIGHT**  
7.910 - 8.080 kg

**BUCKET CAPACITY**  
0,09 - 0,34 m<sup>3</sup>

## First-class operator comfort

- Spacious and comfortable cab with multiposition controls
- Quiet and ergonomic working environment
- Large multifunction colour LCD monitor
- Sliding door for easy entry and exit
- Automatic air conditioner



## Total versatility

- Proportional control on joystick for auxiliary circuits
- Hydraulic pump oil flow adjustable on the LCD monitor
- Road-liner shoes
- Rear-view camera system (optional)

## Easy maintenance

- Optimal maintenance layout
- Side-by-side coolers
- Equipment Management and Monitoring System (EMMS)
- Standard fuel pre-filter with water separator
- Long maintenance intervals



# Powerful and Environmentally Friendly

## New Komatsu engine technology

The powerful and fuel-efficient Komatsu SAA4D95LE-6 engine in the PC78US-10 delivers 50,7 kW / 68,0 HP and is EU Stage IIIB certified. To maximise power, fuel efficiency and emission compliance, it is turbo charged and features direct fuel injection, air-to-air after cooling and cooled EGR.

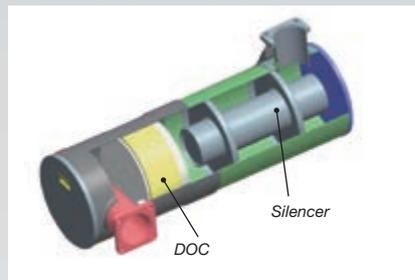


## Fuel-saving hydraulic technology

The PC78US-10 features variable speed matching of the engine and hydraulic pump, and an automatic low idle. The new engine and pump control technology lower total fuel consumption and guarantee efficiency and precision during single and combined movements.

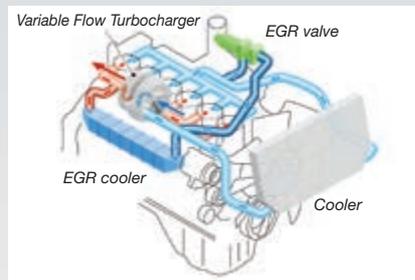
## Komatsu Diesel Oxidation Catalyst (KDOC)

A simple and high efficiency diesel oxidation catalyst that eliminates the need for PM regeneration and simplifies the engine control system. It integrates a high performance exhaust noise silencer and helps to reduce engine noise.



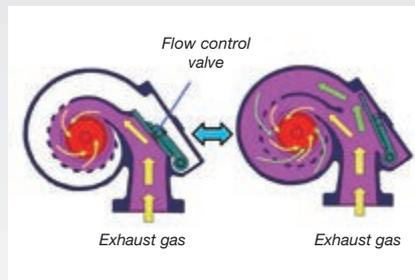
## Exhaust Gas Recirculation (EGR)

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.



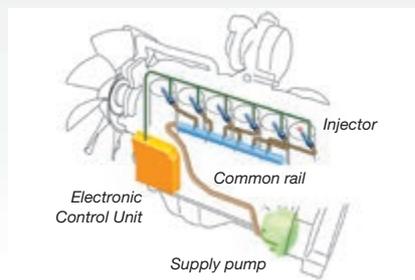
## Variable Flow Turbocharger (VFT)

Varies the intake airflow. The wheel speed of the exhaust turbine is controlled by a valve for optimum airflow to the engine combustion chamber, under any load or speed conditions. The exhaust gas is cleaner, with no reduction in power or performance.



## Komatsu Closed Crankcase Ventilation (KCCV)

Crankcase emissions (blow-by gas) are passed through a CCV filter. The oil mist trapped in the filter is returned back to the crankcase while the filtered gas is returned to the air intake.



## 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.

## New 16 valve cylinder head

Komatsu designed and developed a new 16 valve cylinder head. It reduces exhaust emissions thanks to a maximised air intake and an optimised fuel combustion.

## 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. An Eco-gauge and the Eco guidance tips on the cab monitor further encourage efficient operations.



Eco-gauge, Eco guidance and fuel consumption gauge



## Versatility

Great care went into the design of the PC78US-10, to give it exceptional versatility and mobility for work in confined areas. It offers outstanding visibility and a reduced

tail overhang that lets the operator work without worrying about rear impacts. A reduced front swing radius and a left side swing cylinder make trench digging a cinch,

and with its compact size the PC78US-10 is perfect for urban or road-building jobsites.



# Safety Features

## 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.

## Safe SpaceCab™ cab

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.

## Optimal jobsite safety

Safety features on the Komatsu PC78US-10 comply with the latest industry standards and work together as a system to minimise risks to personnel in and around the machine. A neutral detection system for travel and work equipment levers increase jobsite safety, along with a seat belt caution indicator.

## Rear-view camera

An optional fitment camera gives an exceptionally clear view of the rear work zone on the widescreen monitor panel. Large mirrors on both sides ensure that machine visibility meets the latest ISO standards.



## Short tail swing radius

1,39 m – Because the tail of the PC78US-10 is more compact than conventional models, the PC78US-10 reduces the operator's need to check behind him for movement.

## Short implement swing radius

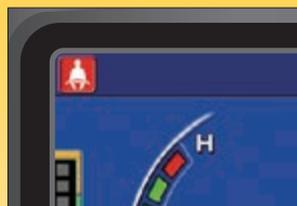
2,05 m – Boom raising angle of the PC78US-10 is larger than on a conventional profile excavator, while front implement protrusion is lessened.



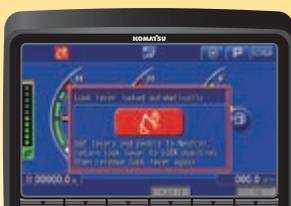
Safe SpaceCab™ cab



Emergency engine stop switch



Seat belt caution indicator



Neutral position detection system



Rear-view image on monitor



Rear-view camera (optional)

# First-Class Operator Comfort



## Operator's environment

Thanks to its spacious cab, this compact machine ensures outstanding comfort even to the most demanding operator. With a double slide mechanism, the seat and PPC levers can be conveniently adjusted for maximum productivity and minimum fatigue. Wide front and side windows - and an opening skylight - enable better visibility in any situation. The standard automatic air conditioner completes a comfortable work environment by maintaining a perfect temperature in the cab, no matter the weather outside.

## Widescreen monitor

Conveniently customisable and with a choice of 25 languages, the widescreen monitor with simple switches and multifunction keys gives you fingertip access to a large range of functions and operating info. The optional rear cameras view is now incorporated into the default main screen.



## Improved operator convenience

With increased in-cab storage space, an auxiliary input (MP3 jack) and 12 V power supply, the cab offers maximum convenience. The automatic air conditioner allows the operator to easily and precisely set the cab's atmosphere.



12 V power supply



Auxiliary input (MP3 jack)

# Easy Maintenance

## Excellent serviceability

Komatsu designed the PC78US-10 with an easy access to all service points. Routine maintenance and servicing are less likely to be skipped, which can mean a reduction of costly downtime later on. The radiator, aftercooler and oil cooler are made of aluminium to improve their efficiency and are mounted in parallel for quicker cleaning. The fuel and oil filters as well as the fuel drain valve, are all remote mounted and easily accessible.

## EMMS (Equipment Management and Monitoring System)

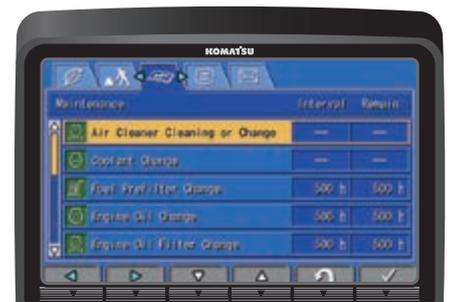
Komatsu's EMMS can prevent a small problem from becoming a major service issue. The controller monitors all critical systems and key engine features such as engine oil pressure, coolant temperature, battery charge, air clogging etc. If an abnormality occurs, it is displayed on the LCD. The monitor also indicates when the oil or the filters must be replaced.



Fan belt auto-tensioner



Fuel pre-filter with water separator



The LCD monitor informs about abnormalities and replacement times



## The way to higher productivity

KOMTRAX™ uses the latest wireless monitoring technology. Compatible on PC, smartphone or tablet, it delivers insightful and cost saving information about your fleet and equipment, and offers a wealth of information to facilitate peak machine performance. By creating a tightly integrated web of support it allows proactive and preventive maintenance and helps 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 wireless communication technology (Satellite, GPRS or 3G depending on model) from the machine to a computer and to the local Komatsu distributor – who's readily available for expert analysis and feedback.

## Power

The detailed information that KOMTRAX™ puts at your fingertips 24 hours a day, 7 days a week gives the power to make better daily and long-term strategic decisions – at no extra cost. Problems can be anticipated, maintenance schedules customised, downtime minimised and machines kept where they belong: working on the jobsite.

## Convenience

KOMTRAX™ enables convenient fleet management on the web, wherever you are. Data is analysed and packaged specifically for effortless and intuitive viewing in maps, lists, graphs and charts. You can foresee eventual maintenance issues and required spare parts, and troubleshoot a problem before Komatsu technicians arrive on site.



# Specifications

## ENGINE

Model .....	Komatsu SAA4D95LE-6
Type .....	Common rail, multi-injection, water cooled, turbocharged
Displacement.....	3.260 cm <sup>3</sup>
Bore × stroke.....	95 mm × 115 mm
No. of cylinders .....	4
Engine power	
at engine speed .....	1.950 rpm
ISO 14396 .....	50,7 kW / 68,0 HP
SAE J1349 .....	49,0 kW / 65,7 HP
Air cleaner .....	dry, double element type air cleaner with dust indicator and auto-dust evacuator

## OPERATING WEIGHT

Operating weight, including 2.250 mm arm, 0,20 m<sup>3</sup> bucket, blade, operator, liquids, filled tank and standard equipment.

Shoes	Operating weight	Ground pressure
450 mm	7.910 kg	0,36 kg/cm <sup>2</sup>
600 mm	8.080 kg	0,27 kg/cm <sup>2</sup>
Road-liner (450 mm)	8.050 kg	0,36 kg/cm <sup>2</sup>

## DRIVES AND BRAKES

Steering control .....	2 levers with pedals
Transmission.....	hydrostatic
Hydraulic motors.....	variable displacement, axial piston
Max. drawbar pull.....	68,2 kN / 6.950 kg
Max. travel speeds Lo / Hi .....	2,8 km/h - 5,0 km/h
Service brake.....	hydraulic lock
Parking brake .....	mechanical discs

## UNDERCARRIAGE

Construction.....	X-frame centre section with box section track-frames
Type .....	fully sealed
Track adjuster .....	hydraulic
Shoes (each side) .....	39
Carrier rollers (each side).....	1
Track rollers (each side).....	5

## HYDRAULIC SYSTEM

Type.....HydrauMind. Closed-centre system with load sensing and pressure compensation valves

Main pumps:

Pump for.....	boom, arm, bucket and travelling
Type .....	variable displacement, axial piston
Max. flow .....	168 ltr/min
Pump for.....	swing and blade
Type .....	fixed displacement gear pump
Max. flow .....	63 ltr/min

Hydraulic motors:

Travel .....	2 × piston motor with parking brake
Swing.....	1 × piston motor with swing holding brake

Relief valve setting:

Implement.....	26,5 MPa / 270 kg/cm <sup>2</sup>
Travel.....	27,0 MPa / 275 kg/cm <sup>2</sup>
Swing .....	20,6 MPa / 210 kg/cm <sup>2</sup>
Pilot.....	3,2 MPa / 33 kg/cm <sup>2</sup>
Blade.....	21,1 MPa / 215 kg/cm <sup>2</sup>

## SWING SYSTEM

Driven by .....	hydraulic motor
Swing reduction gear .....	planetary gear
Swing circle lubrication .....	grease-bathed
Swing brakes.....	automatic, with oil immersed disks
Swing speed.....	10 rpm

## ELECTRIC SYSTEM

Voltage.....	24 V
Battery .....	55 Ah
Alternator.....	60 A
Starter motor .....	4,5 kW

## SERVICE CAPACITIES

Fuel tank.....	125 ltr
Cooling system.....	13 ltr
Engine oil.....	11,5 ltr
Final drive (each side).....	1,1 ltr
Swing drive.....	2,0 ltr
Hydraulic oil tank.....	56 ltr

## ENVIRONMENT

Engine emissions .....

Fully complies with EU Stage IIIB exhaust emission regulations

Vibration levels (EN 12096:1997)\*

Hand/arm.....	≤ 2,5 m/s <sup>2</sup> (uncertainty K = 0,27 m/s <sup>2</sup> )
Body .....	≤ 0,5 m/s <sup>2</sup> (uncertainty K = 0,13 m/s <sup>2</sup> )

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

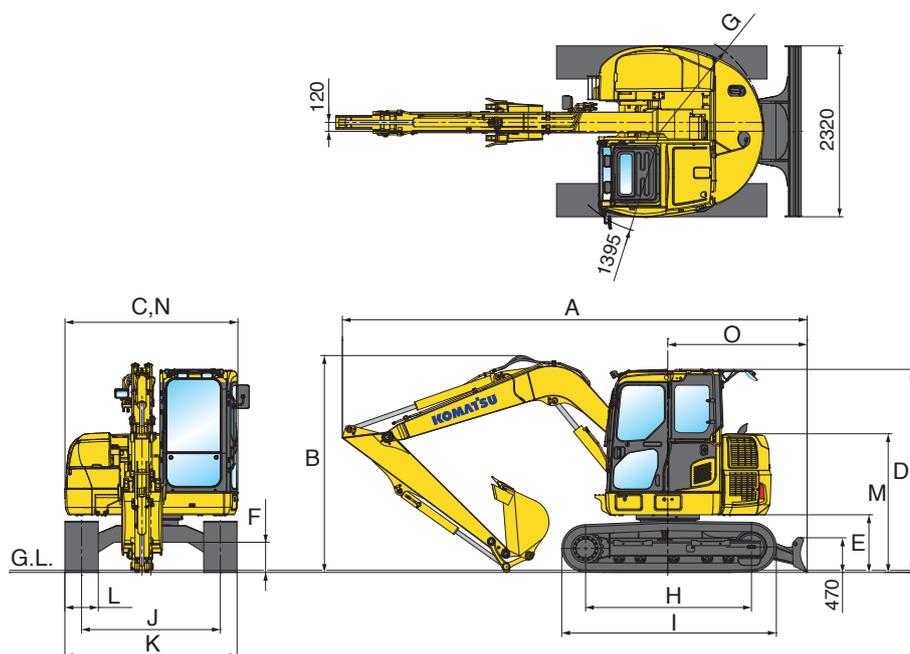


## MACHINE DIMENSIONS

	Boom length	3.710 mm
	Arm length	1.650 mm      2.250 mm
A	Overall length	5.770 mm *
B	Overall height (to top of boom)	2.540 mm
C	Overall width	2.330 mm
D	Overall height (to top of cab)	2.760 mm
E	Ground clearance, counterweight	785 mm
F	Ground clearance	410 mm
G	Tail swing radius	1.390 mm
H	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
M	Machine height to top of engine cover	1.885 mm
N	Machine upper width	2.330 mm
O	Distance, swing center to rear end	1.885 mm

With Road-liner

\* Blade front position

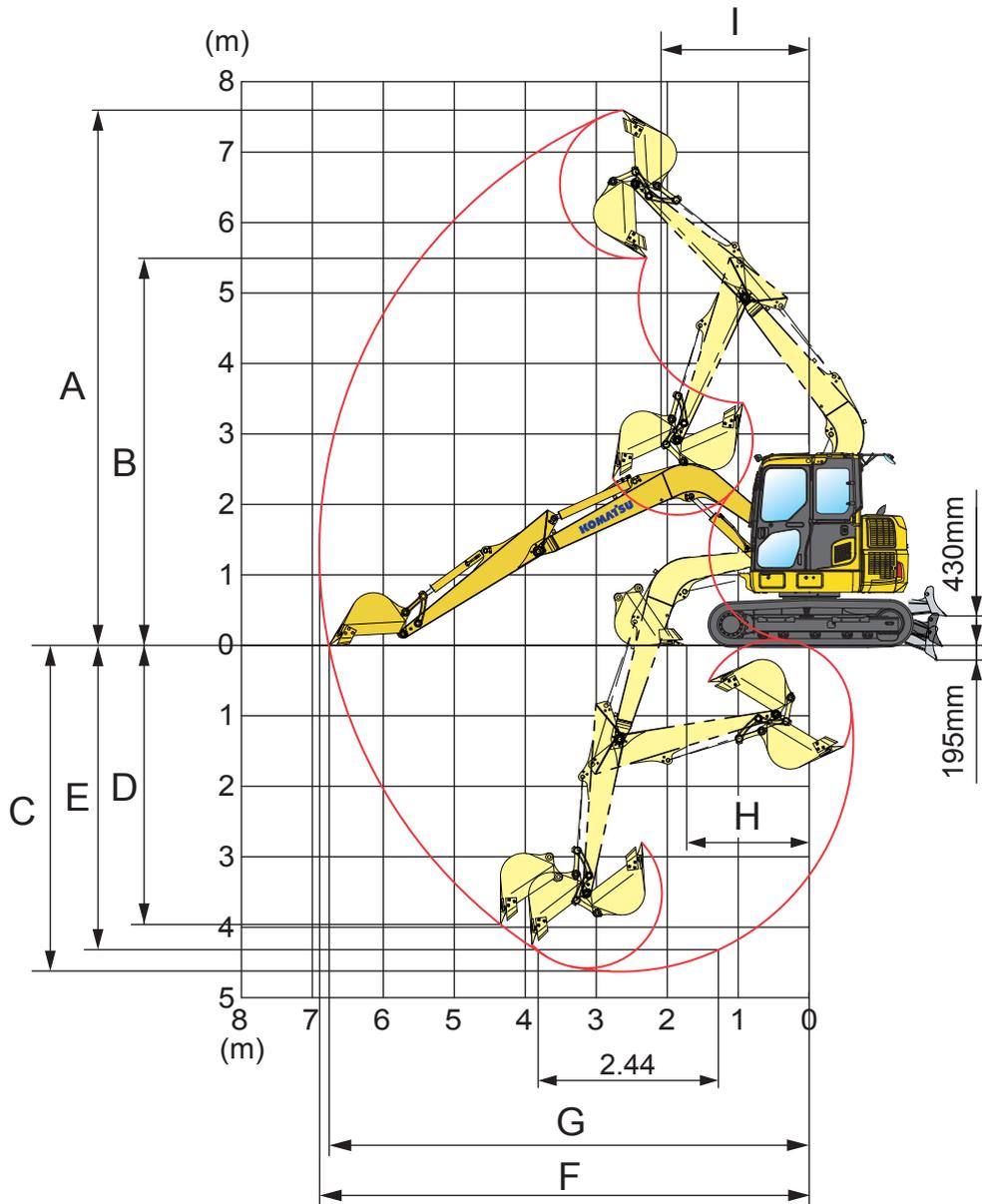


## BUCKET AND ARM COMBINATION

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

○ General digging   □ Light-duty operation   X Not available

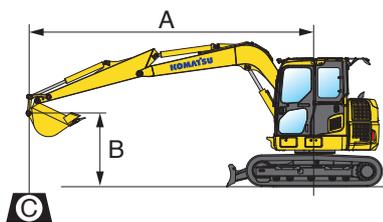
# Working Range



ARM LENGTH	1.650 mm	2.250 mm
A Max. digging height	7.350 mm	7.650 mm
B Max. dumping height	5.230 mm	5.550 mm
C Max. digging depth	4.050 mm	4.660 mm
D Max. vertical wall digging depth	3.560 mm	3.980 mm
E Max. digging depth of cut for 2,44 m level	3.720 mm	4.380 mm
F Max. digging reach	6.380 mm	6.920 mm
G Max. digging reach at ground level	6.230 mm	6.780 mm
H Min. digging reach at ground level	1.880 mm	1.710 mm
I Min. swing radius	1.750 mm	2.050 mm
Bucket digging force (SAE)	53,3 kN	53,3 kN
Arm crowd force (SAE)	38,1 kN	33,1 kN
Bucket digging force (ISO)	61,3 kN	61,3 kN
Arm crowd force (ISO)	41,5 kN	34,5 kN



# 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	B \ A			4,5 m		3,0 m		1,5 m	
									

Bucket: 0,20 m<sup>3</sup> 450 mm road-liner Blade up

2.250 mm	5,0 m	*1.410 kg	1.310 kg	*1.470 kg	1.430 kg				
	3,0 m	1.070 kg	880 kg	*1.560 kg	1.390 kg	*1.860 kg	*1.860 kg		
	0,0 m	970 kg	790 kg	1.490 kg	1.220 kg	2.890 kg	2.290 kg		
	-2,0 m	1.230 kg	1.000 kg	1.450 kg	1.180 kg	2.810 kg	2.220 kg	*4.220 kg	*4.220 kg

Bucket: 0,20 m<sup>3</sup> 450 mm road-liner Blade down

2.250 mm	5,0 m	*1.410 kg	1.310 kg	*1.470 kg	1.430 kg				
	3,0 m	*1.340 kg	880 kg	*1.560 kg	1.390 kg	*1.860 kg	*1.860 kg		
	0,0 m	*1.490 kg	790 kg	*2.060 kg	1.220 kg	*3.280 kg	2.290 kg		
	-2,0 m	*1.510 kg	1.000 kg	*1.850 kg	1.180 kg	*2.970 kg	2.220 kg	*4.220 kg	*4.220 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.



# Midi-Excavator

## PC78US-10

### Standard and Optional Equipment

#### ENGINE

Komatsu SAA4D95LE-6 turbocharged common rail direct injection diesel engine	●
EU Stage IIIB compliant	●
Engine overheat prevention system	●
Adjustable idle shutdown	●

#### UNDERCARRIAGE

450 mm road-liner shoes	●
450 mm triple grouser shoes	○
600 mm triple grouser shoes	○
450 mm rubber shoes	○
Track frame HD under cover	○

#### SERVICE AND MAINTENANCE

Multifunction video compatible colour monitor with Equipment Management and Monitoring System (EMMS) and efficiency guidance	●
Battery main switch	●
KOMTRAX™ – Komatsu wireless monitoring system	●

#### LIGHTING SYSTEM

Working light on boom	●
Working light on cab	●
Additional working lamps on cab	○
Rotating beacon	○

#### CABIN

Reinforced safety SpaceCab™; highly pressurised and tightly sealed hyper viscous mounted cab with tinted safety glass windows, opening skylight, pull-up type front window with locking device, removable lower window, front window wiper with intermittent feature, cigarette lighter, ashtray, floor mat	●
Suspension seat with seat belt	●
Automatic climate control system	●
24 Volt power supply	●
Beverage holder and magazine rack	●
Radio pre-setting	●
Sun visor	○

#### HYDRAULIC SYSTEM

6-working mode selection system; power mode, economy mode, breaker mode, attachment power and attachment economy mode, and lifting mode	●
Relieve valves on service spool	●
One additional 2-way full-flow service valve with hydraulic line for attachment on boom and arm (HCU-A)	●

#### ATTACHMENTS

Blade	●
Komatsu buckets	○
Komatsu breakers	○

#### OTHER EQUIPMENT

Mono boom	●
1.650 mm digging arm	●
2-speed travel	●
Auto deceleration	●
Proportional roll switch on joystick for equipment circuit	●
Counterweight (490 kg)	●
2.250 mm digging arm	○
Heavy counterweight (805 kg)	○

#### SAFETY EQUIPMENT

Overload warning device	●
Travel acoustic alarm	●
Horn	●
Rear-view mirrors (left side, rear)	●
Hose burst valves on boom and arm cylinders	●
Emergency engine stop switch	●
Neutral position detection system	●
Seat belt caution indicator	●
Rear-view camera system	○

Further work equipment, accessories and special application arrangements on request

Other attachments on request

- standard equipment
- optional equipment

Your Komatsu partner:

# KOMATSU

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