

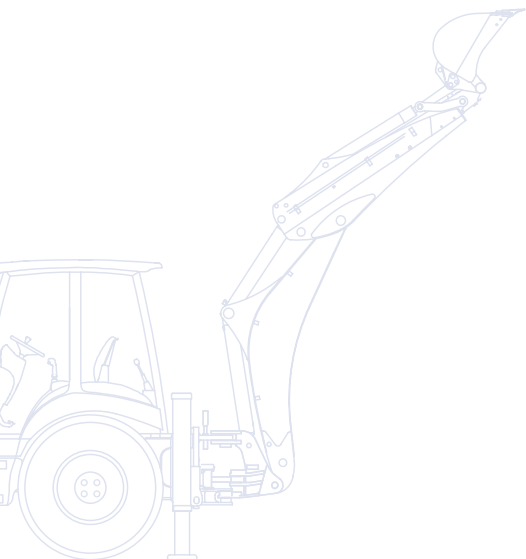
KOMATSU

WB
93R



Rigid Backhoe Loader

WB93R-5E0



ENGINE POWER

74 kW / 99.2 HP @ 2200 rpm

OPERATING WEIGHT

7550 kg

Walk-Around

The WB93R-5E0 belongs to the latest generation of Komatsu backhoe loaders, which comes to market with a number of innovations. It has been developed with constant attention to the needs of customers from all over the world. The result is a user-friendly machine that offers top class performance.

Exclusive design

- Optimal parallel lifting
- Excellent loading performances
- S-shape backhoe
- Functional layout with hydraulic piping and hoses along the boom
- Highest breakout force and lifting capacities

Unique comfort

- Ergonomic interior design
- Reduced noise inside cab
- Air condition available

Premium performance

- High productivity
- CLSS (Closed Load Sensing System)
- Variable flow piston pump
- “Power” and “Economy” working modes
- PPC servo-controls for the front loader



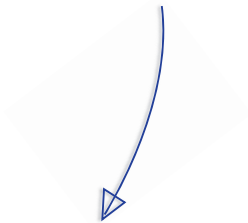
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OPERATING WEIGHT
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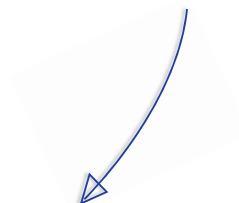
Excellent visibility

- Wide round glass surfaces
- Sloped and narrow engine bonnet
- Upper front window for full visibility of the front bucket
- Total control of the surrounding area



Total versatility

- Several different configurations
- Flip over forks and pallet forks available
- X-type hydraulic rear stabilizers with reversible rubber pads for both earth and paved surfaces



Premium Performance

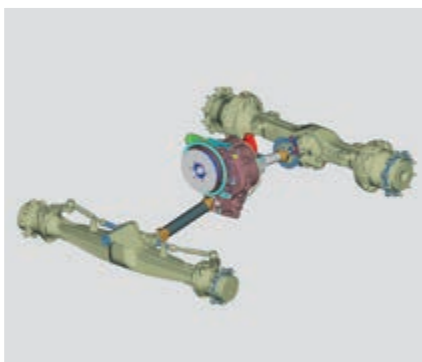


Hydraulic system

The WB93R-5E0 offers high productivity and top performance, with increased breakout force and lifting capacities. The core of the Komatsu backhoe loader hydraulics is certainly the consolidated CLSS (Closed Load Sensing System). Thanks to its variable flow, the system efficiently supplies the power the machine requires, when it is needed. With two working modes, “Power” and “Economy”, the operator can choose between maximum power and minimum fuel consumption.

Absolute control

PPC servo-control is standard for the front loader. The “Power Shuttle” transmission provides the machine with four forward and four reverse speeds, with synchronised mechanical shifting. The electro-hydraulic differential lock, together with the “Heavy duty” axles, increases efficiency and the operator’s confidence under any working conditions.





Loader

The front loader design ensures optimal parallel lifting; in addition, the divergent shape of the arm greatly improves visibility and provides excellent loading performance. The design of the backhoe is completely new: it features a clean and functional layout, with hydraulic piping and hoses along the boom.

S-shape backhoe

The rounded shape of the backhoe enhances the loading ability of the machine and its capacity to overcome obstacles, while ensuring a high breakout force. The telescopic arm significantly increases the machine's versatility.



Unique Comfort

Operator's environment

The cab has a modern design, a ROPS and FOPS structure and is fully equipped. Its increased internal volume and wide, round glass surface optimises the ventilation system that includes several conveniently located vents. Particular attention was given to the internal lay-out: an easy-to-reach control panel, ergonomic controls, and plenty of holders and storage compartments show Komatsu's dedication to provide operators with optimal working conditions.

Tilting steering column

The steering column has a single lever that locks when released at the desired position.



Custom made

Several different configurations make this machine suitable for a wide variety of customers. The many options offer a high level of customisation.



Excellent Visibility



Perfect all round view

The wide round glass surface presents a highly increased visibility. The bonnet shape and the upper front window make it easy and safe to work with the front loader. When operating the backhoe excavator, the operator can easily open the single frame window and comfortably overlook the surrounding area.



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Specifications

ENGINE

The engine has been developed in compliance with the strictest European standards (97/68EC 2004/26/EC – EU Stage IIIA) on the reduction of exhaust emissions.

Model Komatsu SAA4D104E-1
Type vertical, 4-cycle water-cooled diesel engine
Displacement 4485 cm³
Bore × stroke 104 × 132 mm
No. of cylinders 4
Compression ratio 17.5:1
Combustion direct injection (DI)
Aspiration turbo-intercooled
Engine power
at rated engine speed 2200 rpm
ISO 14396 74 kW / 99.2 HP
Max. torque/engine speed 420 Nm/1200 rpm
Cooling system radiator
Air filter type dry filter with safety element
Starting system electric motor with pre-heating air system for cold climate

OPERATING WEIGHT

Standard machine operating weight 7550 kg
Total machine weight 9000 kg
Operating weight increase
standard bucket -300 kg
standard arm -260 kg
pallet forks -280 kg
forks for 4×1 bucket +150 kg

HYDRAULIC SYSTEM

SyncroSystem hydraulics allows the operator very precise and simultaneous movements. This system incorporates two different working modes: Power and Economy. The advanced hydraulic system includes also the function “Speed Up” to increase the working speed of the front loader.

System SyncroSystem
Type Closed Load Sensing System, CLSS
Pumps type variable displacement axial pistons
Pumps control system Load Sensing
Main valve LIFD “Load Independent Flow Divider” modular type
Max delivery 165 ltr/min
Working pressure 250 bar

ELECTRIC SYSTEM

The electric system is easily accessible and protected: connections are sealed and waterproof, and comply with the strictest international safety rules.

Voltage 12 V
Battery 155 Ah
Alternator 120 A
Starter 3 kW

ENVIRONMENT

Vibration levels (EN 12096:1997)*

Hand/arm ≤ 2.5 m/s² (uncertainty K = 1.2 m/s²)
Body ≤ 0.5 m/s² (uncertainty K = 0.2 m/s²)

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

STEERING SYSTEM

The front steering wheels are controlled by a hydrostatic “Load Sensing” with steering priority valve system.

Turning radius (without using brakes):

at the corner of the bucket 5450 mm
at outer edge of front tyre 4000 mm

Turning radius (using brakes):

at the corner of the bucket 4950 mm
at outer edge of front tyre 3400 mm

TRANSMISSION

Switching between 4WD and 2WD is obtained through an electrohydraulic system. The 4 speed mechanical shift is synchronised. The transmission is operated through a torque converter and a power shuttle reversing shift “Power Shuttle” type.

TRAVELLING SPEEDS

GEAR	FORWARD	REVERSE
1st	6 km/h	6 km/h
2nd	10 km/h	10 km/h
3rd	23 km/h	23 km/h
4th	40 km/h	40 km/h

AXLES

“Heavy duty” axles with planetary reduction gears in the wheel hubs. Front axle total oscillation angle 20°. Differential total lock in the rear axle controlled by a switch on the loader’s lever.

Max. front strength (Dynamic) 85 kN
Max. rear strength (Dynamic) 76 kN

BRAKES

Oil immersed disc brakes are actuated by individual braking on each rear wheel with 2 separate pedals. Total integral braking on the 4 wheels is activated by operating the two pedals at the same time. Disc diameter 300 mm
The calliper parking or safety brake is operated through a hand lever.

TYRES

Standard:

front 12.5/80 R18 - 10 PR
rear 16.9 × 28 - 12 PR

Option:

front 365/70 R18; 340/80 R18
rear 440/80 R28 IT 530

CABIN

ROPS (ISO 3471, SAEJ1040) and FOPS (ISO 3449, SAEJ 231) cab designed in order to offer the best visibility, ergonomics, low noise and comfort. Two doors, full opening rear window with front and rear windscreen wipers. Internal lay out includes full adjustable seat, fresh filtered air intake ventilation and easy to read front and side dash board.

FRAME

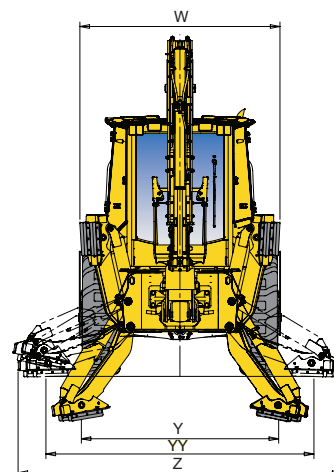
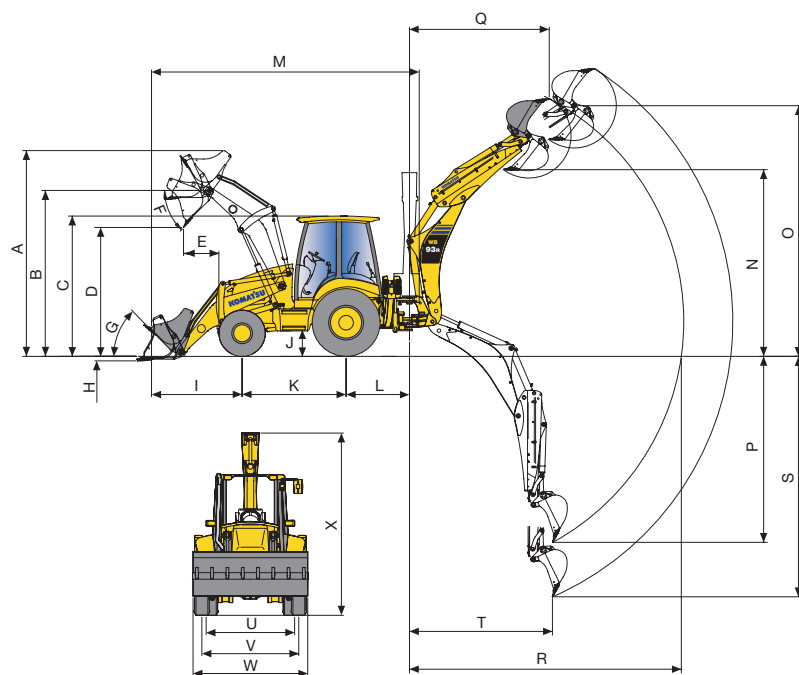
The frame is a reinforced and closed box structure, which increases stiffness and reliability.

LOADER

The design of the front loader allows excellent parallelism when lifting and lowering the bucket. Furthermore, thanks to the linkage geometry, the greasing points have been reduced.

Standard bucket width	2320 mm
Standard bucket capacity (ISO 7546)	1.03 m ³
STD bucket weight	430 kg
Lifting capacity	
at maximum height	38.20 kN (3900 kg)
Lifting capacity	
at ground level (ISO 14397)	51.95 kN (5300 kg)
Breakout force (ISO 14397)	63.83 kN (6500 kg)
4x1 bucket width	2340 mm
4x1 bucket capacity (ISO 7546)	1.0 m ³

DIMENSIONS



A	max height	4298 mm
B	pin height	3428 mm
C	cab height	2900 mm
D	max dumping height	2778 mm
E	max dumping reach (45°)	724 mm
F	dumping angle	43°
G	rollback angle	42°
H	digging depth	137 mm
I	bucket reach in transport (edge/tooth)	2187/2303 mm
J	ground clearance	416 mm
K	wheel base	2173 mm
L	backhoe swing centre distance	1175 mm
M	transport length (edge/tooth)	7472/7356 mm
N	dumping height SAE	3692 mm
	max dumping height	4517 mm
	- with extended telescopic SAE	4522 mm
	- with extended telescopic max	5289 mm

REFILLS

Engine oil	12.8 ltr
Cooling system	16.5 ltr
Fuel tank	150 ltr
Hydraulic oil tank	41 ltr
Hydraulic oil system capacity	97 ltr
Front axle oil	8.5 ltr
Rear axle oil	14.5 ltr
Gearbox oil	16 ltr

BACKHOE

The boom has a reinforced structure and allows 180° rotation, still preserving high torque. The casted swing support and arm ends ensure high fatigue resistance. X-type outrigger stabilizers with reversible pads and safety hose burst valve.

Bucket breakout force (ISO 6015)	59.80 kN (6100 kg)
Arm breakout force (ISO 6015)	39.20 kN (4000 kg)

O	max digging height (edge/tooth)	6178/6218 mm
	- with extended telescopic (edge/tooth)	6858/6927 mm
P	digging depth SAE	4285 mm
	- with extended telescopic	5397 mm
Q	reach at max height (edge/tooth)	2554/2794 mm
	- with extended telescopic (edge/tooth)	3585/3816 mm
R	max reach from swing centre	5754 mm
	- with extended telescopic	6767 mm
S	max digging depth	4970 mm
	- with telescopic	6014 mm
T	digging reach	1973 mm
U	rear tread	1800 mm
V	front tread	1912 mm
W	overall width (with bucket)	2320 mm
X	transport hoe height	3737 mm
Y	interaxis distance (fully extended outriggers)	2256 mm
YY	interaxis distance (outriggers ground level)	3063 mm
Z	overall width (outriggers ground level)	3702 mm

When used in object handling operations, the backhoe portion must be equipped with hose burst valves (boom, arm and overload warning device) in compliance with EN474-4 and must operate in accordance with the related local regulations.

Rigid Backhoe Loader

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Standard Equipment

- Komatsu EU Stage IIIA compliant turbo engine
- Power Shuttle transmission with 4 synchronised gears
- Load sensing, variable displacement axial piston pump
- Side-by-side radiator
- 4 wheel drive
- Electro-hydraulic 100% differential lock
- Declutch switch
- Air conditioning
- Foot pedal and hand control accelerator
- Horn
- Maintenance free battery 155 Ah
- 12 V external electric plug
- 12 V internal electric plug
- Battery disconnection safety switch
- Antifreeze (-36 °C)
- Front and rear working lights
- Road homologation
- Lights for road travel
- Rotating beacon
- External rear-view mirror (left)
- ROPS/FOPS cab with heater and fan
- Tinted glass
- Adjustable steering column
- Adjustable seat with safety belt
- Front and rear washer and windshield wipers
- Internal storage compartments (one lockable)
- Cup holder
- Sun visor
- Fully opening bonnet
- External lockable toolbox
- Dry type air cleaner with clogging indicator
- Fuel filter with integrated water separator
- Gauges & indicators: transmission oil temperature, 4WD engagement, brake oil level, differential lock, fuel level, hour meter, pre-heating, engine speed, engine coolant temperature, engine oil pressure, air filter clogging
- Safe position seat sensor
- PPC lock switch
- Front tyres: 12.5/80 R18 - 10 PR
- Rear tyres: 16.9 × 28 - 12 PR
- Hose burst valves:
 - stabilisers
- LOADER**
 - PPC servo-controls
 - Speed-up function
 - Heavy duty safety bar
 - Self-levelling
 - General purpose bucket with standard teeth
- BACKHOE**
 - Mechanical control levers
 - Power/Economy working modes
 - Electro-hydraulic backhoe boom lock
 - Backhoe swing transport lock
 - Electro-hydraulic backhoe slide frame release lock
 - PPC servo-controls for stabilisers
 - Hydraulic cushions
 - 900 mm digging bucket

Optional Equipment

- Additional front counterweights (150 kg, 375 kg)
- Deluxe pneumatic suspension seat
- Drive shaft guard (front)
- Cold area arrangement (-30 °C) with 185 Ah battery and pre-heating systems
- High ambient/altitude arrangement
- Rubber pads for stabilisers
- Hose burst valves:
 - backhoe boom and arm safety valves, overload warning device (for non-EU countries only)
 - loader arm
- Biodegradable hydraulic oil
- Hydraulic hand hammer circuit
- Hydraulic oil filter clogging indicator
- Air cyclone pre-filter
- Refuelling pump
- Additional rear-view mirror (right)
- Four additional working lights on cab
- Radio pre-setting
- Radio
- Backup alarm
- Front mudguards
- Front tyres:
 - 340/80 XMCL'M'
 - 365/70 R18 IT 530
- Rear tyres:
 - 440/80-R28 XMCL'M'
- LOADER**
 - LSS (Load Stabiliser System)
 - Safety valve deactivation switch
 - Auxiliary hydraulic circuits:
 - floating function
 - front auxiliary hydraulic circuit
 - floating and "Return-To-Dig" function
 - additional front auxiliary hydraulic circuit (6-way valve)
- Attachments:
 - bolt-on cutting edge
 - cutting edge on teeth
 - flip-over forks on 4×1 bucket
 - forks (for quick-coupler)
 - hydraulic and mechanical quick-coupler
 - 4×1 bucket with pre-setting for flip-over forks and angle opening indicator
 - general purpose bucket (for quick-coupler)
 - 4×1 bucket (for quick-coupler)
 - dozer blade
 - snow blade
 - hand hammer
 - heavy duty 4×1 bucket
- BACKHOE**
 - Alternative control pattern
 - Hydraulic backhoe side shift
 - Auxiliary hydraulic circuits:
 - 2-way circuit for attachments (auger, tilting bucket)
 - hammer circuit
 - Offset boom
 - Telescopic arm
 - Offset boom and telescopic arm
 - Attachments:
 - ditch cleaning bucket (1400 mm)
 - full range of buckets (300 mm - 900 mm)
 - ditch digging bucket (1000 mm)
 - mechanical quick-coupler (for std buckets)
 - hydraulic hammer
 - Bucket linkage with lifting hook

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