

KOMATSU

WA600-6R



Photos may show equipments not available in your area

Wheel loader

Engine power
396 kW / 530 HP @ 1800 rpm

Operating weight
52320 - 53920 kg

Bucket capacity
6.4 - 7.0 m³

WA600-6R

Walk-around



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396 kW / 530 HP @ 1800 rpm

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Bucket capacity

6.4 - 7.0 m³

High productivity & low fuel consumption

- High performance Komatsu SAA6D170E-5 engine
- Variable displacement piston pump & Closed-Centre Load Sensing System (CLSS)
- Low fuel consumption
- Dual-mode engine power select system
- Automatic transmission with shift timing select system
- Large-capacity torque converter
- Lock-up torque converter
- Increased bucket capacity
- Long wheelbase

Increased reliability

- Komatsu components
- High-rigidity frames and loader linkage
- Wet multi-disc brakes and fully hydraulic braking system
- Hydraulic hoses use flat face-to-face O-ring seals
- Sealed connectors
- Cation electrodeposition primer paint/powder coating paint

Easy maintenance

- Equipment Management and Monitoring System
- Komtrax Plus (option)
- Easy radiator cleaning with reversible fan
- Modular radiator core system

Excellent operator environment

- Pillar-less large cab
- Low-noise design
- Fingertip control levers
- Electrically controlled transmission lever
- Automatic transmission with electronically controlled modulation valve
- Engine RPM set system with auto decel (option)
- Advanced Joystick Steering System (option)

Safety

- ROPS/FOPS cab (ISO 3471/ISO 3449)
- Rear-hinged full open cab door
- Rear access stairs

Environmentally-friendly

- U.S. EPA Tier 2 and EU Stage 2 emissions equivalent
- Low exterior noise
- Low fuel consumption

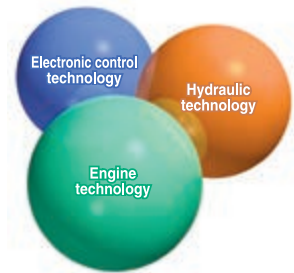


High productivity & low fuel consumption



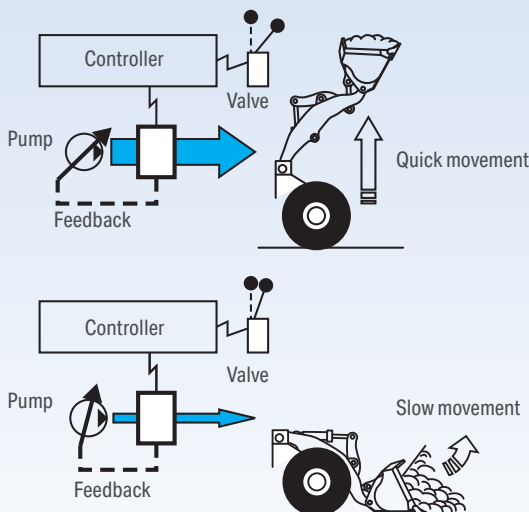
Precision control with Closed-center Load Sensing System (CLSS) hydraulics

The WA600-6R features variable-displacement pumps on both the hydraulic and steering systems. These pumps deliver the exact amount of oil required, dramatically improving fuel efficiency. Komatsu's Closed-center Load Sensing system (CLSS) hydraulics enables extremely precise control of the working gear, and ensures that the bucket, boom and hydraulically driven attachments can all move smoothly at the same time.



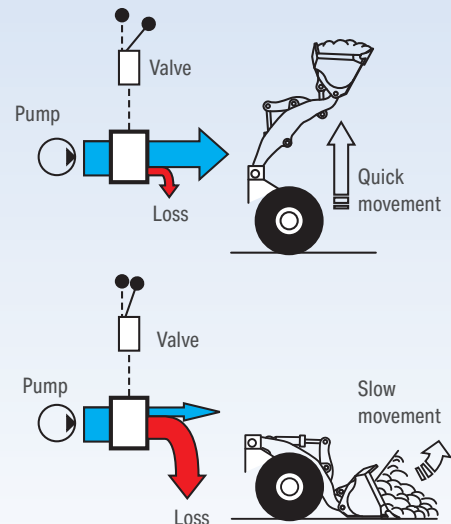
Variable displacement piston pump

The pump delivers hydraulic pressure only when required.



Fixed displacement piston pump

The pump delivers the maximum amount at any time. The unused flow is disposed of.



High performance SAA6D170E-5 engine

Komatsu SAA6D170E-5 engine with high pressure common rail injection delivers ample power in a fuel efficient way. The engine meets EU Stage II and EPA Tier II emissions regulations. WA600-6R's Komatsu SAA6D170E-5 engine features higher torque, better performance at low speed, excellent throttle response and advanced electronics.

Heavy duty HPCR system (High Pressure Common Rail fuel injection)

A high pressure pump pumps fuel into an accumulator chamber or 'Common Rail'. An ECU (electronic control unit) then optimizes fuel injection from the common rail into the engine cylinders. This improves engine power and fuel efficiency, reducing emission and noise levels.

Dual-mode engine power select system

This wheel loader offers two selectable operating modes – E and P. The operator can adjust the machine's performance with the selection switch.

- E mode: This mode provides maximum fuel efficiency for general loading.
- P mode: This mode provides maximum power output for hard digging operations or hill climbs.

Increased bucket capacity matches with one class higher dump truck

The WA600-6R can load 60 t (70 short ton) trucks with the 3990 mm boom. Thanks to its increased height, the operator has greater overall visibility – especially for loading.



Bucket capacity:	7.0 m ³	6.4 m ³
Boom length:	3850 mm	3990 mm
Dumping clearance:	3730 mm	3995 mm
Dumping reach:	1885 mm	1800 mm

Automatic transmission with mode select system

This operator controlled system allows the operator to select manual shifting or two levels of automatic shifting (low and high). Auto L mode is for fuel saving operation with the gear shift timing set at lower speeds than Auto H mode. Therefore Auto L mode keeps the engine in a relatively low rpm range for fuel efficiency while also giving tractive force at the touch of the accelerator pedal.

Large-capacity torque converter

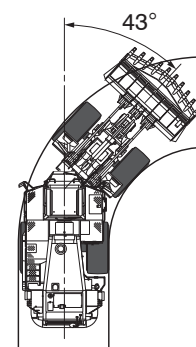
The newly designed drive train has a large-capacity torque converter for optimal efficiency. The WA600-6R has plenty of acceleration without the need for full throttle and it can achieve high travel speeds, even on grades or steep ramps leading to feed hoppers. This significantly assists productivity and also delivers great value for load-and-carry operations.

Lock-up torque converter

The Komatsu designed lock-up torque converter provides increased production efficiency, reduced cycle times and optimum fuel savings in Load & Carry or hill-climb operations. This feature allows the operator to activate the system on/off with a switch located on the right-side control panel.

Wide tread and long wheelbase

A 2650 mm wide tread and a long wheel base of 4500 mm give the WA600-6R outstanding stability – enough to handle rough terrain and fast load & carry cycles with the minimum spillage and maximum comfort. With 43° steering articulation to both sides, the WA600-6R is extremely manoeuvrable in tight spaces for faster loading cycles.

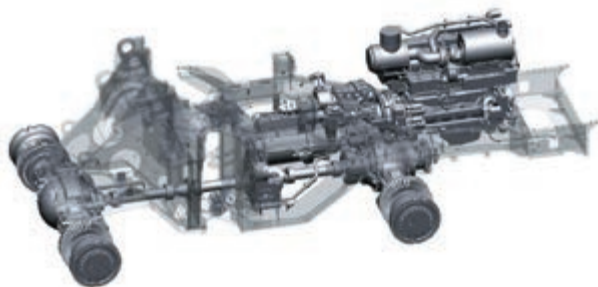


Increased reliability



Komatsu components

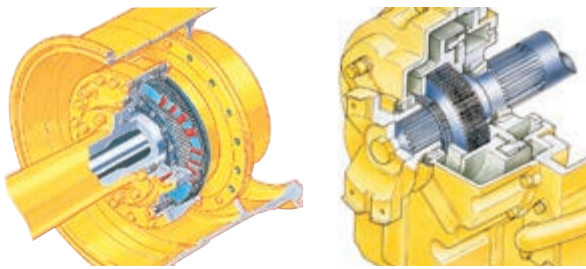
Komatsu manufactures the engine, torque converter, transmission, hydraulic units, and electric parts on this wheel loader. Komatsu wheel loaders are manufactured with an integrated production system using a strict quality control.



High-rigidity frames and loader linkage

The front and rear frames and loader linkage have more torsional rigidity providing longer frame life. Extensive testing has proved that frame and loader linkage have the ability to accommodate actual work loads.





Wet multi-disc brakes and fully hydraulic braking system

This system provides lower maintenance costs and higher reliability. Wet disc brakes are fully sealed. Contaminants are kept out, reducing wear and maintenance. Brakes require no adjustments for wear, meaning even lower maintenance. The new parking brake is also an adjustment-free, wet multi-disc for high reliability and long life. Added reliability is designed into the braking system by the use of two independent hydraulic circuits. This system provides hydraulic backup should one of the circuits fail. Fully hydraulic brakes mean no air system to bleed, or the condensation of water in the system that can lead to contamination, corrosion, and freezing.

Sealed DT connectors

Main harnesses and controller connectors are equipped with sealed DT connectors providing high reliability, water and dust resistance.

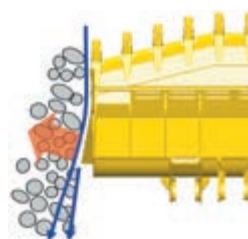
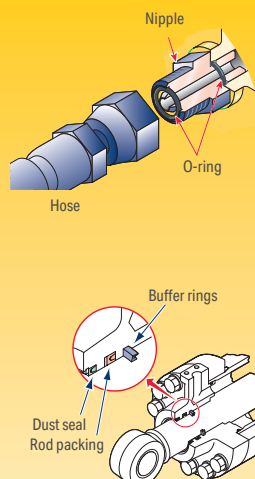


Cation electrodeposition primer paint/powder coating final paint

Cation electrodeposition paint is applied as a primer paint and powder coating is applied as topcoat to the exterior sheet metal parts. This process results in a beautiful rust-free machine, even in the most severe environments. Some external parts are made of plastic providing long life and high impact resistance.

Reliable hydraulic line

Flat face-to-face O-ring seals are used to securely seal hydraulic hose connections and to prevent oil leakage. In addition, buffer rings are installed on the head side of the all-hydraulic cylinders to lower the load on the rod seals and maximise reliability.



Sweeper wing (large size tyre guard)

To prevent tire damage, the WA600-6R provides a sweeper wing (large size tyre guard) on both sides of bucket.

Easy maintenance



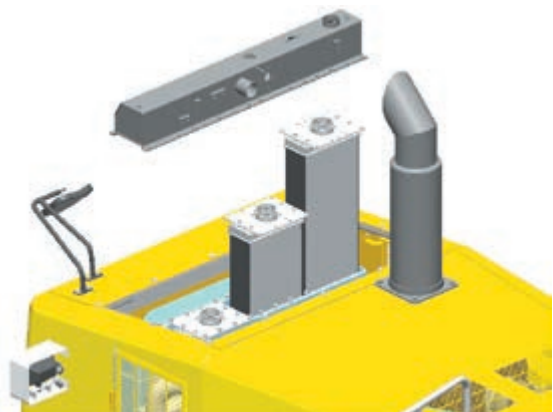
Reversible hydraulic fan

A push-button switch in the cab allows the operator to run the radiator fan in reverse for working in dusty environments. Furthermore, the hinged, bolt-on fan can be swung out for easier cleaning.



Modular radiator core system

The modular radiator core is easy to replace without removing the entire radiator assembly.

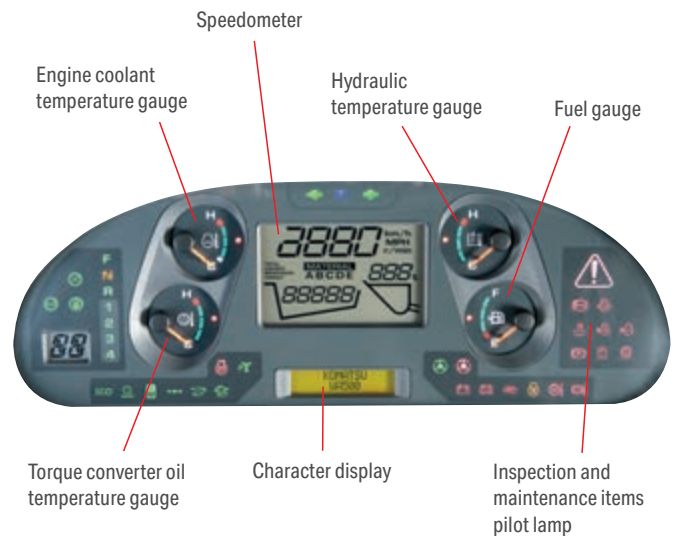


Equipment Management and Monitoring System

The monitor is mounted in front of the operator for easy viewing, allowing the operator to easily check gauges and warning lights.

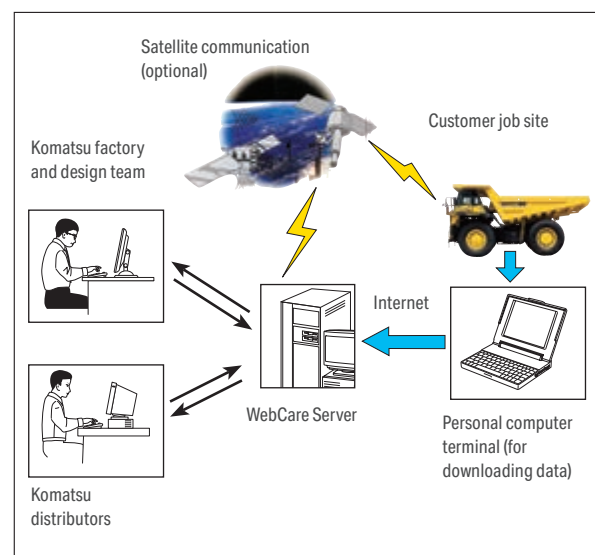
Maintenance control and troubleshooting functions

- Action code display: If any abnormality should occur, the monitor displays action details and faults to the operator.
- Monitor: Amongst other functions, the controller monitors engine oil level, pressure and coolant temperature. All errors are displayed on the LCD.
- Replacement time notice: The monitor informs replacement time of oil and filters on the LCD when replacement intervals are reached.
- Trouble data memory: The monitor stores abnormalities for effective troubleshooting.



KOMTRAX Plus

Komtrax Plus (option) is a management system for large mining equipment, which enables detailed monitoring of the fleet via satellite. Komatsu and distributors can analyze "vehicle health", other operating conditions and provide this information to the job site, using the Internet from a remote location, on a near-real time basis. As a result, customers receive timely vehicle maintenance, reduced maintenance expenses, downtime costs and avoid mechanical trouble.



First-class comfort



Pillar-less large cab

A wide pillar-less windscreen provides excellent front visibility. The wiper arm covers a large area to provide great visibility even on rainy days.



The cab area is the largest in its class providing maximum space for the operator. Increased seat slide adjustment to the rear by introducing front mounted air conditioner unit.

Steering wheel with telescopic/tilt column

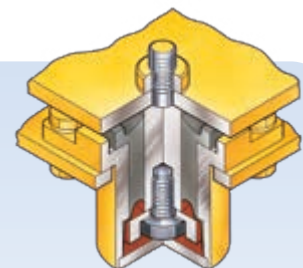
The operator can tilt and telescope the steering column to provide a comfortable working position.

Electronic controlled transmission lever

Change direction or shift gears with a touch of a finger without removing the shifting hand from the steering wheel. Solid state electronics and conveniently located direction and gear shift controls make this possible. Automatic shifts in ranges 2 to 4 keep production high and manual shifting at a minimum.

Low-noise design

Noise at operator's ear (ISO 6396:2008): 76 dB(A)
Dynamic noise level (outside) (ISO 6395:2008): 113 dB(A)

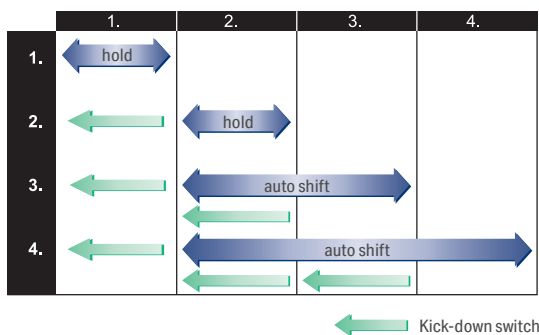


The large cab is mounted with Komatsu's unique ROPS/FOPS viscous mounts. The low-noise engine, hydraulically driven fan, and hydraulic pumps are mounted with rubber cushions. The cab sealing is improved to provide a quiet, low-vibration, dustproof pressurised, and comfortable operating environment. Also, the exterior noise level is the lowest in its class.

Automatic transmission with ECMV

The automatic transmission with ECMV automatically selects the proper gear speed based on travel speed, engine speed, and other travel conditions. The ECMV (Electronically Controlled Modulation Valve) system engages the clutch smoothly to prevent lags and shocks when shifting. This system provides efficient machine operation and a comfortable ride.

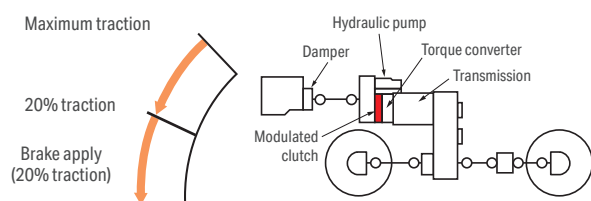
- Kick-down switch:**
 With the touch of a finger, the kick-down switch automatically downshifts from second to first when beginning the digging cycle. It automatically shifts up from first to second when the direction control lever is placed in reverse. This results in increased rim pull for better bucket penetration and reduced cycle times for higher productivity.
- Hold switch:**
 Auto shift is selected and if the operator turns on this switch when the lever is in 3rd or 4th gear, the transmission is held in that gear speed.



Modulated clutch system

The modulated clutch system controls the tractive effort with the left brake pedal from 100% to 20% of the converter output torque.

- Useful for smooth speed reduction when approaching dump trucks for loading
- Easy control of tyre slippage
- Reduction of shift shock when moving from forward to reverse



Electronic pilot control levers

The finger control electronic pilot control work equipment levers have light operating effort and short stroke facilitating easy operation. The operator's comfort is further increased by the full large size adjustable arm rests. Combined with CLSS, this system allows the following new functions for easy and efficient operation:

Remote boom positioner with shockless stop function

The highest and lowest position of the bucket can be set from cab to match any truck body. Once the positioner is set, the bucket is smoothly stopped at desired position with no shock.

Remote bucket digging angle control

The digging bucket angle can be easily set from cab to match of ground condition.

Semi-auto digging system (optional)

Bucket tilt operation can be automatically done when digging.

Engine RPM set system with auto decel (option)

Engine low idle RPM can be easily preset using a push button switch. The system provides auto decel for better fuel consumption.

AJSS (Advanced Joystick Steering System) (option)

AJSS is a feedback steering system which incorporates steering and forward and reverse selection. Thanks to the feedback function, the machine steering angle is exactly the same as the lever tilt angle.



Safety first



ROPS/FOPS cab

The ROPS/FOPS cab is standard for operator's safety. A wide pillar-less flat glass provides excellent front visibility, and a heated rear window provides excellent rear visibility in cold and freezing weather conditions.

ROPS (ISO 3471): Roll-over Protective Structure

FOPS (ISO 3449): Falling Objects Protective Structure



Rear access stairs

For all access and egress to the machine, a rear access stair with safety rail is provided. The step width, clearance, and step angle have been designed with the operator's safety in mind. A step light provides light for night boarding.

Specifications

Engine

Model	Komatsu SAA6D170E-5
Type	Water-cooled, 4-cycle
Aspiration	Turbocharged, after-cooled
No. of cylinders	6
Bore × stroke	170 × 170 mm
Displacement	23.15 l
Governor	All-speed, electronic
Engine power	
at rated engine speed	1800 rpm
SAE J1995	Gross 396 kW / 530 HP
ISO 9249/SAE J1349*	Net 393 kW / 527 HP
Fan drive type	Hydraulic
Fuel system	Direct injection
Lubrication system	
Method	Gear pump, force-lubrication
Filter	Full-flow type
Air filter type	Dry-air filter with automatic dust emission and preliminary purification including a dust display

* Net horsepower at the maximum speed of radiator cooling fan is 374 kW / 502 HP. U.S. EPA Tier 2 and EU Stage 2 emissions equivalent.

Transmission

Type	Full-powershift, planetary type
Torque converter	3-element, 1-stage, 1-phase

Speeds in km/h (with 35/65-33 tyres)

Gear	1.	2.	3.	4.
Forward (with lock-up)	6.7	11.7 (12.4)	20.3 (21.7)	33.8 (37.7)
Reverse	7.3	12.8	22.0	37.0

Chassis and tyres

System	4-wheel drive
Front axle	Fixed, full-floating
Rear axle	Center-pin support, full-floating, 26° total oscillation
Reduction gear	Spiral bevel gear
Differential gear	Conventional type
Final drive	Planetary gear, single reduction
Tyres	35/65-33

Brakes

Operating brakes	Hydraulically actuated, wet multi-disc brakes on all wheels
Parking brake	Wet multi-disc
Emergency brake	Uses the parking brake

Steering system

System	Articulated frame steering
Type	Completely hydraulic power steering
Steering angle to either side	43° each direction
Steering pump	Piston pump
Working pressure	34.4 MPa / 350 kgf/cm ²
Pumping capacity	163 l/min
No. of steering cylinders	2
Type	Double-action
Bore diameter × stroke	115 × 510 mm
Smallest turn (center of the tyre 35/65-33)	7075 mm

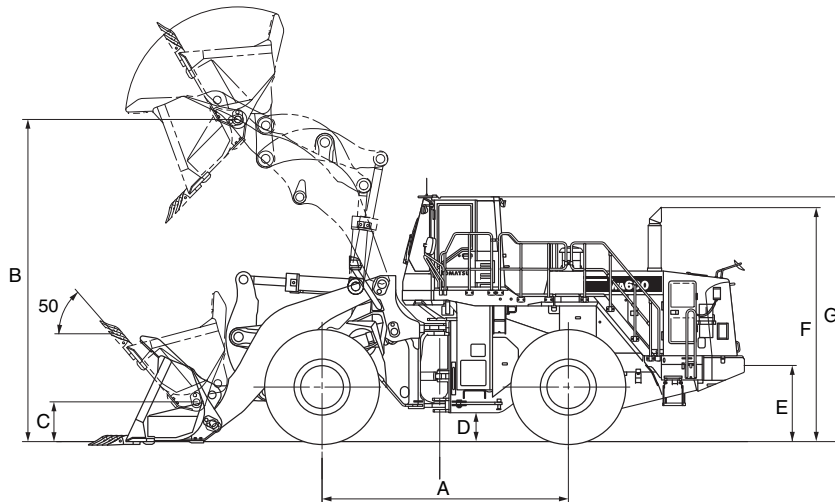
Hydraulic system

Hydraulic pump	Piston pump
Maximum pump flow	239 + 239 l/min
Working pressure	34.3 MPa / 350 kgf/cm ²
No. of lift/bucket cylinders	2/1
Type	Double-action
Bore diameter × stroke	
Boom cylinder	200 × 1067 mm
Bucket cylinder	225 × 776 mm
Control valve	2-spool type
Control positions	
Boom	Raise, hold, lower, and float
Bucket	Tilt-back, hold, and dump
Hydraulic cycle with rated load bucket filling	
Raise time	9.3 s
Dumping time	2.3 s
Lowering time (empty)	4.1 s

Service refill capacities

Cooling system	147 l
Fuel tank	718 l
Engine oil	86 l
Hydraulic system	443 l
Front axle	155 l
Rear axle	155 l
Torque converter and transmission	83 l

Dimensions



Measurements and working specifications

	3990 mm boom	3850 mm boom
H Tread		2650 mm
I Width over tyres		3540 mm
A Wheel base		4500 mm
B Hinge pin height, max.	5885 mm	5665 mm
C Hinge pin height, carry position	720 mm	670 mm
D Ground clearance		525 mm
E Hitch height		1385 mm
F Overall height, top of the stack		4270 mm
G Overall height, ROPS cab		4460 mm

Dimensions with 35/65-33-36PR(L-4) tyres

Change in data caused by:

Tyres / attachment	Operating weight	Tipping load straight	Tipping load full turn	Width over tyres	Ground clearance	Overall height
	kg	kg 3990 mm (3850 mm) boom	kg 3990 mm (3850 mm) boom	mm	mm	mm
35/65-33-36PR (L-5)	+1000	+715 (+745)	+595 (+620)	0	0	0
35/65-33-42PR (L-4)	+20	+15 (+15)	+10 (+15)	+15	0	0
35/65-R33 (L-4)	-780	-555 (-580)	-465 (-485)	+15	-65	-65
35/65-R33 (L-5)	-235	-170 (-175)	-140 (-145)	+25	-65	-65
Add. counterweight	+1000	+2380 (+2480)	+1985 (+2065)	0	0	0

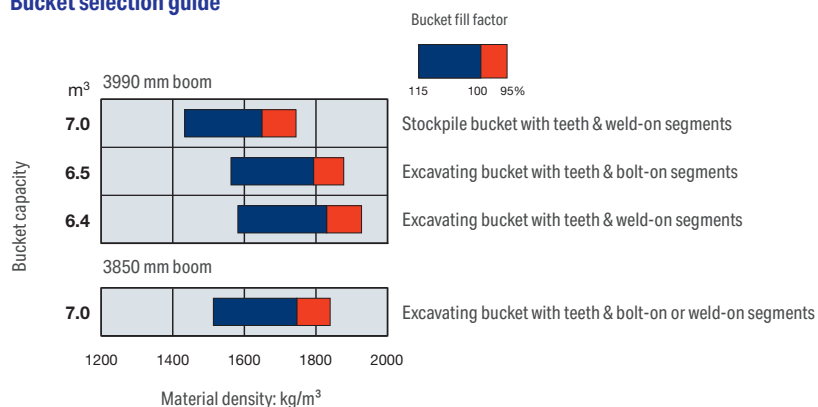
Dimensions

	3990 mm boom			3850 mm boom	
	Excavating buckets		Stockpile bucket	Excavating buckets	
	Spade nose teeth and WSE* ¹	Straight edge teeth and BSE* ²	Spade nose teeth and WSE* ¹	Spade nose teeth and WSE* ¹	Straight edge teeth and BSE* ²
Bucket capacity:	heaped	6.4 m ³	6.5 m ³	7.0 m ³	7.0 m ³
	struck	5.3 m ³	5.4 m ³	5.8 m ³	5.8 m ³
Bucket width		3685 mm	3685 mm	3685 mm	3685 mm
Bucket weight		5115 kg	4735 kg	5255 kg	4865 kg
Dumping clearance, max. height and 45° dump angle* ³		3995 mm	4180 mm	3945 mm	3730 mm
Reach at max. height and 45° dump angle* ³		1800 mm	1610 mm	1850 mm	1690 mm
Reach at 2130 mm clearance and 45° dump angle		3015 mm	2875 mm	3050 mm	2775 mm
Reach with arm horizontal and bucket level		4135 mm	3870 mm	4205 mm	3800 mm
Operating height (fully raised)		7925 mm	7925 mm	7995 mm	7775 mm
Overall length		11985 mm	11725 mm	12055 mm	11870 mm
Loader clearance circle (bucket at carry, outside corner of bucket)		17000 mm	17060 mm	17040 mm	16875 mm
Digging depth:	0°	130 mm	135 mm	130 mm	140 mm
	10°	515 mm	480 mm	530 mm	495 mm
Static tipping load:	straight	34200 kg	34580 kg	34060 kg	35400 kg
	43° full turn	28500 kg	28880 kg	28360 kg	29500 kg
Breakout force		387 kN	448 kN	375 kN	433 kN
		39500 kgf	45680 kgf	38200 kgf	38600 kgf
Operating weight		52700 kg	52320 kg	52840 kg	52900 kg

*¹ Weld on segment edges. *² Bolt on segment edges. *³ At the end of tooth or bolt on cutting edge (BOC).

All dimensions, weights, and performance values based on ISO 7131 and ISO 7546 standards. Static tipping load and operating weight shown include lubricant, coolant, full fuel tank, ROPS cab, and operator. Machine stability and operating weight affected by counterweight, tire size, and other attachments.

Bucket selection guide



Standard equipment

Engine/power train

- Engine, Komatsu SAA6D170E-5 diesel
- Lock-up clutch torque converter
- Service brakes, wet disc type
- Transmission, 4 forward and 4 reverse

Electrical system

- Alternator, 90 A/24 V
- Back-up alarm
- Back-up lamp
- Batteries, 2 × 12 V/200 Ah
- Directional signal
- Starting motor, 2 × 24 V/11.0 kW

Hydraulic system

- 2-spool valve for boom and bucket controls
- Hydraulic-driven fan with reverse rotation
- Lift cylinders and bucket cylinder

Cab

- Auto air conditioner
- Auto shift transmission with mode select system
- Electronic Pilot Control fingertip control levers with automatic leveler and positioner
- Floor mat
- Main monitor panel with Equipment Management Monitoring System
- Rear access stairs
- Rearview mirrors
- Rear defroster (electric)
- Rear window washer and wiper
- ROPS/FOPS (ISO 3471/ISO 3449) cab
- Secondary steering (ISO 5010)
- Seat, suspension type with reclining
- Seat belt
- Steering wheel, tiltable, telescopic
- Sun visor

Work equipment

- 3990 mm boom
- Boom kick-out
- Bucket positioner
- Standard counterweight

Other equipment

- Front fender
- Hard water area arrangement (corrosion resistor)
- Radiator mask, lattice type
- Rear under view mirror
- Tyres (35/65-33-36PR L-4 tubeless) and rims
- Water separator

Optional equipment

Engine/power train

- Brake cooling system
- Limited slip differential (F&R)

Electrical system

- Battery disconnect switch

Hydraulic system

- 3-spool valve

Cab

- Advanced Joystick Steering System
- AM/FM radio
- AM/FM stereo radio cassette
- Semi-auto digging system

Work equipment

- 3850 mm boom
- Optional counterweight
- Bucket teeth (bolt on type)
- Bucket teeth (tip type)
- Counterweight for log
- Cutting edge (bolt on type)
- Log grapple
- Segmented edges

Other equipment

- Automatic greasing
- Electronically controlled suspension system
- Fire extinguisher
- Komtrax Plus
- Load meter
- Ordinary spare parts
- Power train guard
- Rear fender
- Tool kit

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