

KOMATSU®

WA470-6

HORSEPOWER

Gross: 204 kW 273 HP @ 2000 rpm

Net: 203 kW 272 HP @ 2000 rpm

BUCKET CAPACITY

3.6–5.2 m³ 4.7–6.8 yd³

ecot3

WA
470

WHEEL LOADER



Photo may include optional equipment.

WALK-AROUND

**High Productivity
& Low Fuel Consumption**

- High performance SAA6D125E-5 engine
- Low fuel consumption
- Dual-mode engine power select system
- Large-capacity torque converter
- Automatic transmission with shift timing select system
- Lock-up Torque Converter (optional)
- Variable displacement piston pump & CLSS

See pages 4 and 5.

Excellent Operator Environment

- Automatic transmission with ECMV
- Electronic controlled transmission lever
- Variable transmission cut-off system
- Telescopic / tilt steering column
- Fingertip control levers
- Low-noise designed cab
- Pillar-less large ROPS/FOPS integrated cab
- Easy entry/exit, rear-hinged door

See pages 8 and 9.

Increased Reliability

- Reliable Komatsu designed and manufactured components
- Sturdy main frame
- Maintenance-free, fully hydraulic, wet disc service and parking brakes
- Hydraulic hoses use flat face O-ring seals

See page 6.

- Cation electrodeposition process is used to apply primer paint
- Powder coating process is used to apply main structure paint
- Sealed DT connectors for electrical connections

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Harmony with Environment

- EPA Tier 3 and EU Stage 3A emissions certified
- Low exterior noise
- Low fuel consumption

Easy Maintenance

- "EMMS" (Equipment Management Monitoring System)

See page 7.

- Easy access, gull-wing type engine side doors
- Automatic Reversible Fan (optional)

HIGH PRODUCTIVITY AND LOW FUEL CONSUMPTION



High Performance SAA6D125E-5 Engine

Electronic Heavy Duty Common Rail fuel injection system provides optimum combustion of fuel. This system also provides fast throttle response to match the machine's powerful tractive effort and fast hydraulic response.

Net: 203 kW 272 HP

Low Emission Engine

This engine is EPA Tier 3 and EU Stage 3A emissions certified, without sacrificing power or machine productivity.

Low Fuel Consumption

The fuel consumption is reduced greatly because of the low-noise, high-torque engine and the large-capacity torque converter with maximum efficiency in the low-speed range.

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 operation or hill climb.



Dual mode engine power selection switch



The eco indicator will help an operator to promote energy saving.

Large-capacity Torque Converter

Newly designed drive train has a large-capacity torque converter for optimal efficiency. The WA470-6 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.

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.



Shift mode selection switch

Therefore Auto L mode keeps the engine in a relatively low rpm range for fuel conservation while yielding adequate tractive force by depressing the accelerator pedal.

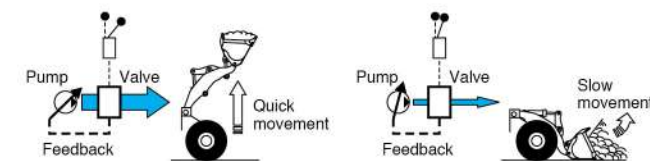
Lock-up Torque Converter (optional)

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. The operator can engage the system from 2nd to 4th gear. This optional feature allows the operator to activate the system on/off with a switch located on the right-side control panel.

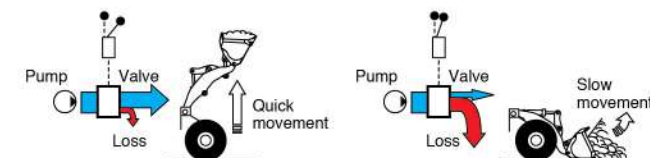
Variable Displacement Piston Pump & CLSS

New design variable displacement piston pump combined with the Closed-center Load Sensing System delivers hydraulic flow just as the job requires preventing wasted hydraulic pressure. Minimized waste loss contributes to better fuel economy.

- **New Variable Displacement Piston Pump:** The pump delivers only necessary amounts minimizing waste loss.



- **Fixed Displacement Piston Pump:** The pump delivers the maximum amount at any time and the unused flow is disposed.



Maximum Dumping Clearance and Reach

The long lift arms provide high dumping clearances and maximum dumping reach. The operator can even level loads on the body of a dump truck easily and efficiently.

Dumping Clearance: 3185 mm 10'5"

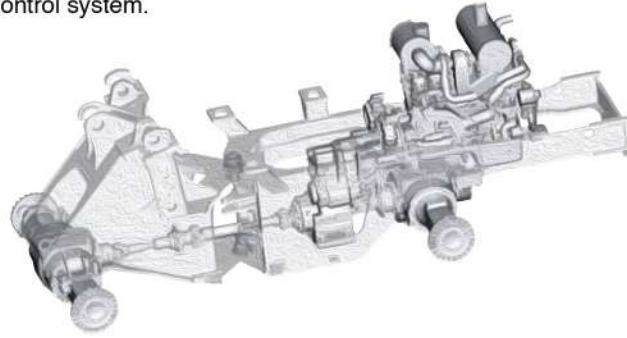
Dumping Reach: 1235 mm 4'1"
(4.2 m³ 5.5 yd³ bucket with B.O.C.)



INCREASED RELIABILITY

Komatsu Components

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

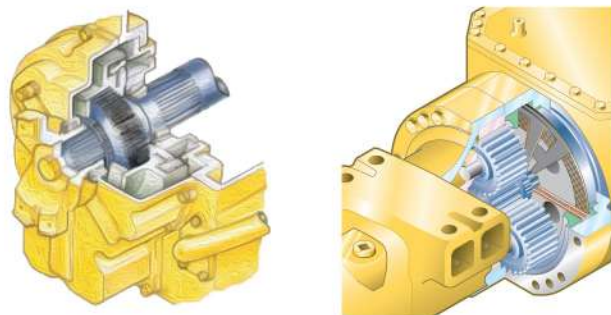


Wet Multi-disc Brakes and Fully Hydraulic Braking System

mean 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. Provides hydraulic backup should one of the circuits fail.

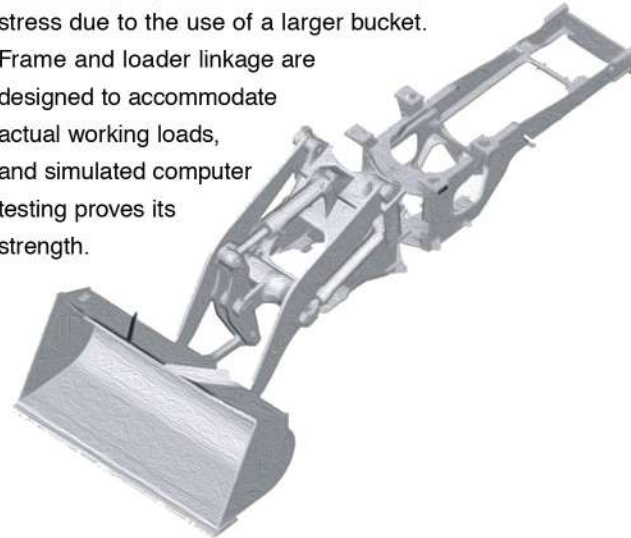
Fully hydraulic brakes mean no air system to bleed, or the condensation of water in the system that can lead to contamination, corrosion, and freezing.



High-rigidity Frames and Loader Linkage

The front and rear frames and the loader linkage have more torsional rigidity to secure resistance against increased stress due to the use of a larger bucket.

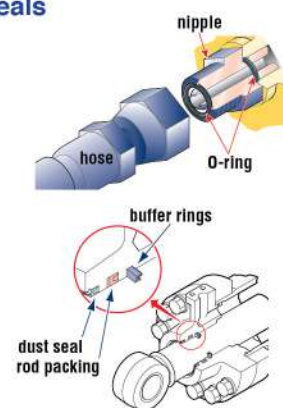
Frame and loader linkage are designed to accommodate actual working loads, and simulated computer testing proves its strength.



Flat Face-to-face O-ring Seals

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 to the head side of the all-hydraulic cylinders to lower the load on the rod seals and maximize the reliability.



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.

Sealed DT Connectors

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



EASY MAINTENANCE



Photo may include optional equipment.

EMMS

(Equipment Management Monitoring System)

Monitor is mounted in front of the operator for easy



viewing, allowing the operator to easily check gauges and warning lights.

A specially designed two-spoke steering wheel allows the operator to easily see the instrument panel.

Maintenance Control

and Troubleshooting Functions

- **Action code display function:** If abnormality occurs, the monitor displays action details on the character display at the bottom center of the monitor.
- **Monitor function:** Controller monitors engine oil level, pressure, coolant temperature, air cleaner clogging, etc. If controller finds abnormalities, the error is displayed on LCD.
- **Replacement time notice function:** Monitor informs replacement time of oil and filters on LCD when replacement intervals are reached.
- **Trouble data memory function:** Monitor stores abnormalities for effective troubleshooting.

Gull-wing Type Engine Side Doors Open Wide

The operator can open and close each gull-wing type engine side door easily with the assistance of a gas spring to perform daily service checks from the ground.



Ease of Radiator Cleaning

If the machine is operating in adverse conditions, the operator can reverse the hydraulic cooling fan from inside the cab by turning on a switch on the control panel.

Automatic Reversible Fan (optional)

The engine fan is driven hydraulically. It can be operated in reverse automatically. When switch is automatic position. The fan revolves in reverse for 2minutes every 2 hours intermittently. (Default setting)



B: Manual Reverse Mode
A: Normal rotation Mode
C: Auto Reverse Mode

OPERATOR ENVIRONMENT

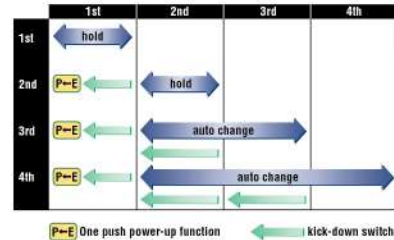
Easy Operation

Automatic Transmission with ECMV

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:

Consider this valuable feature for added productivity. With the touch of a finger, the kick-down switch



automatically downshifts from second to first when beginning the digging cycle. It automatically upshifts 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.

- **One push power-up function:** The kick-down switch also functions as a power-up switch in first gear. The first time the kick-down switch is depressed it functions as a kick-down switch and gear speed is reduced. When the machine is in E operation mode and first gear, pressing the kick-down switch a second time changes the operation mode to P allowing increased power for heavy digging operation. The operation mode returns to E when machine gear speed changes or direction changes to reverse.

- **Hold switch:** Auto shift is selected and if the operator turns on this switch when the lever is at the 3rd or 4th gear speed position, the transmission is fixed to that gear speed.

Electronically Controlled Transmission Lever



Easy shifting and directional changes

with Komatsu two-lever electronic shifting. Change direction or shift gears with a touch of the fingers 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 two through four keep production high and manual shifting at a minimum.

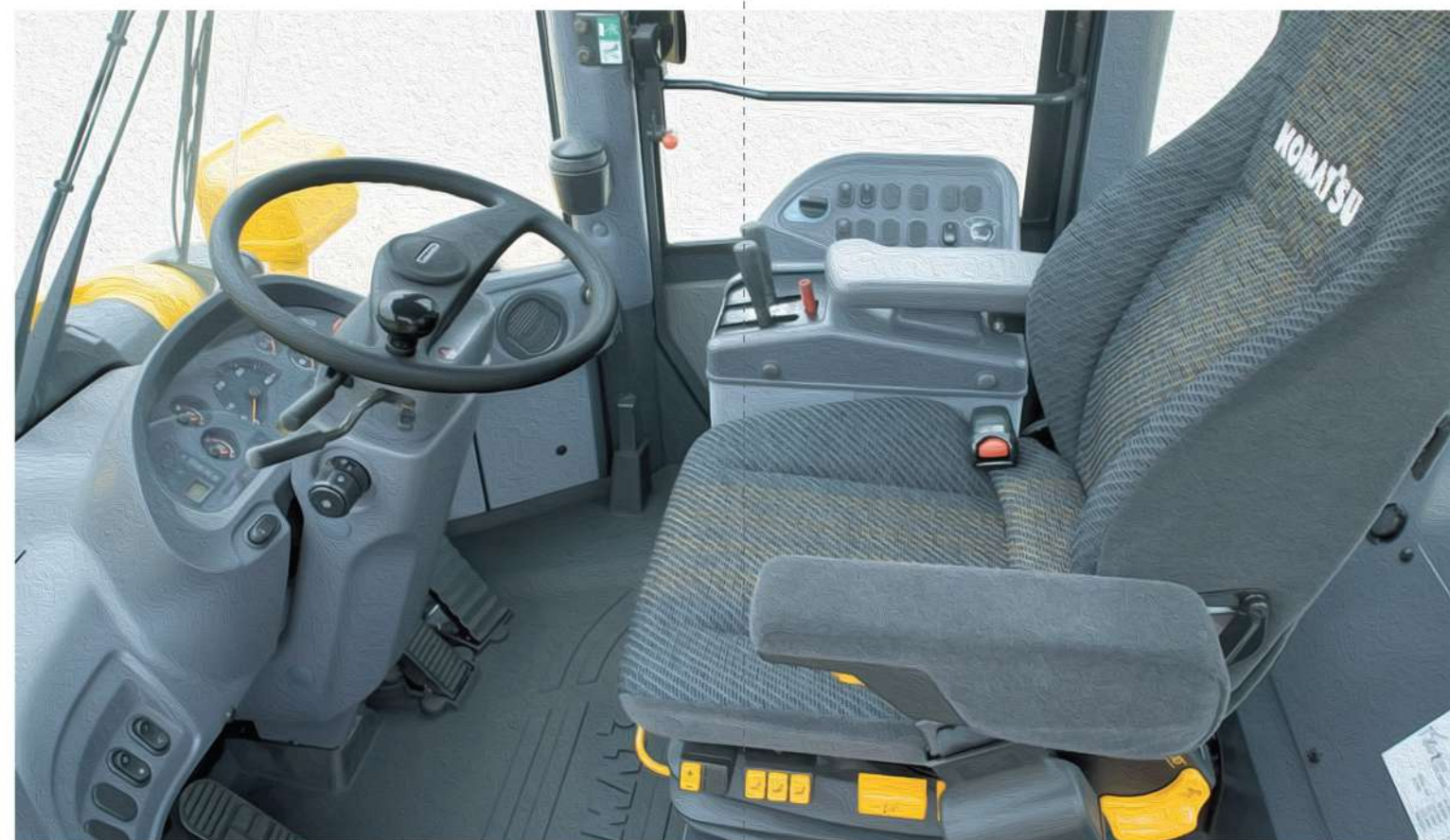
Variable Transmission Cut-off System

The operator can continuously adjust the transmission cut-off pressure desired for the left brake pedal using switch located on the right-side control panel. The operator can improve the working performance by setting the cut-off pressure properly depending on working condition.

- High cut-off pressure for digging operations.
- Low cut-off pressure for truck-loading operations.



- 1: Cut-off ON/OFF switch
- 2: Cut-off adjustment switch
- 3: Fan reverse ON/OFF switch
- 4: Boom control
- 5: Bucket control



Fingertip Work Equipment Control Levers with Large Size Arm Rest

New PPC control levers are used for the work equipment. The operator can easily operate the work equipment with fingertip control, reducing operator fatigue and increasing controllability. The PPC control lever column can be slid



forward or rearward and the large size arm rest can be adjusted up or down to provide the operator with a variety of comfortable operating positions.

Telescopic/Tilt Steering Column

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

Comfortable Operation

Low-noise Design

Noise at operator's ear noise level : 72 dB(A)

Dynamic noise level (outside): 112 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, and the cab sealing is improved to provide a quiet, low-vibration, dustproof with pressurizing, and comfortable operating environment. Also, exterior noise is lowest in this class.



Pillar-less Large Cab

A wide pillar-less flat glass 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 backward by introducing front mounted air conditioner unit.

Rear-hinged Full Open Cab Door

The cab door hinges are installed to the rear side of the cab providing a large opening angle for the operator to enter and exit. The steps are designed like a staircase, so that the operator can get on and off the cab easily.



SPECIFICATIONS



ENGINE

Model	Komatsu SAA6D125E-5
Type	Water-cooled, 4-cycle
Aspiration	Turbocharged, aftercooled, cooled EGR
Number of cylinders	6
Bore x stroke	125 mm x 150 mm 4.9" x 5.9"
Piston displacement	11.04 ltr 674 in³
Governor	all-speed, electronic
Horsepower	
SAE J1995	Gross 204 kW 273 HP
ISO 9249/SAE J1349*	Net 203 kW 272 HP
Rated rpm	2000 rpm
Fan drive method for radiator cooling	Hydraulic
Fuel system	Direct injection
Lubrication system:	
Method	Gear pump, force-lubrication
Filter	Full-flow type
Air cleaner	Dry type with double elements and dust evacuator, plus dust indicator

*Net horsepower at the maximum speed of radiator cooling fan is 191 kW 256 HP.

EPA Tier 3 and EU Stage 3A emissions certified.



TRANSMISSION

Torque converter:	
Type	3-element, single-stage, single-phase
Transmission:	
Type	Full-powershift, countershaft type
Travel speed: km/h mph	
Measured with 23.5-25 tires	

	1st	2nd	3rd	4th
Forward	7.0 4.3	12.2 7.6	21.3 13.2	33.7 20.9
Reverse	7.3 4.5	12.6 7.8	21.9 13.6	34.7 21.6

Measured with 26.5-25 tires

	1st	2nd	3rd	4th
Forward	7.6 4.7	13.1 8.1	22.9 14.2	36.2 22.5
Reverse	7.9 4.9	13.5 8.4	23.6 14.7	37.3 23.2



AXLES AND FINAL DRIVES

Drive system	Four-wheel drive
Front	Fixed, semi-floating
Rear	Center-pin support, semi-floating, 26° total oscillation
Reduction gear	Spiral bevel gear
Differential gear	Conventional type
Final reduction gear	Planetary gear, single reduction



BRAKES

Service brakes	Hydraulically actuated, wet disc brakes actuate on four wheels
Parking brake	Wet disc brake
Emergency brake	Parking brake is commonly used



STEERING SYSTEM

Type	Articulated type, full-hydraulic power steering
Steering angle	35° each direction (40° end stop)
Minimum turning radius at the center of outside tire	6630 mm 21'9"



HYDRAULIC SYSTEM

Steering system:	
Hydraulic pump	Piston pump
Capacity	195 ltr/min 51.5 U.S. gal/min at rated rpm
Relief valve setting	24.5 MPa 250 kgf/cm² 3,555 psi
Hydraulic cylinders:	
Type	Double-acting, piston type
Number of cylinders	2
Bore x stroke	90 mm x 441 mm 3.5" x 17.3"

Loader control:	
Hydraulic pump	Piston pump
Capacity	260 ltr/min 68.7 U.S. gal/min at rated rpm
Relief valve setting	34.3 MPa 350 kgf/cm² 4,980 psi
Hydraulic cylinders:	
Type	Double-acting, piston type
Number of cylinders—bore x stroke:	
Lift cylinder	2- 140 mm x 764 mm 5.5" x 30.0"
Bucket cylinder	1- 160 mm x 575 mm 6.3" x 22.6"
Control valve	2-spool type
Control positions:	
Boom	Raise, hold, lower, and float
Bucket	Tilt-back, hold, and dump
Hydraulic cycle time (rated load in bucket)	
Raise	5.4 sec
Dump	1.6 sec
Lower (Empty)	3.7 sec

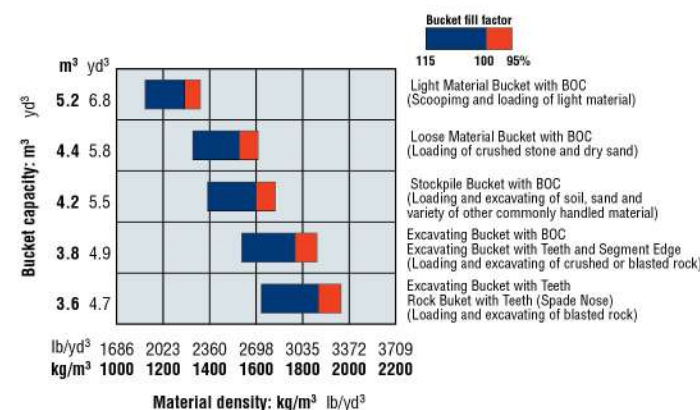


SERVICE REFILL CAPACITIES

Cooling system	.61 ltr	16.1 U.S. gal
Fuel tank	413 ltr	109.1 U.S. gal
Engine	.38 ltr	10.0 U.S. gal
Hydraulic system	173 ltr	45.7 U.S. gal
Axle front	.60 ltr	15.9 U.S. gal
rear	.56 ltr	14.8 U.S. gal
Torque converter and transmission	.65 ltr	17.2 U.S. gal

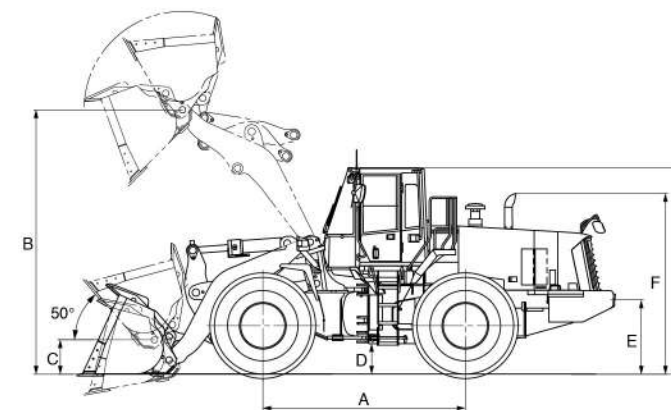


BUCKET SELECTION GUIDE



DIMENSIONS

Measured with 26.5-25-16PR (L-3) tires



Tread	2300 mm	7'7"
Width over tires	3010 mm	9'11"
A Wheelbase	3450 mm	11'4"
B Hinge pin height, max. height	4360 mm	14'4"
C Hinge pin height, carry position	585 mm	1'11"
D Ground clearance	525 mm	1'9"
E Hitch height	1240 mm	4'1"
F Overall height, top of the stack	3080 mm	10'1"
G Overall height, ROPS cab	3500 mm	11'6"

	General Purpose Buckets					Rock Bucket (Spade nose)	Loose Material Bucket	Light Material Bucket
	Stockpile		Excavating					
	Bolt-on Cutting edges	Teeth	Bolt-on Cutting edges	Teeth and Segments	Teeth			
Bucket capacity: heaped	4.2 m³ 5.5 yd³	3.9 m³ 5.1 yd³	3.8 m³ 5.0 yd³	3.8 m³ 5.0 yd³	3.6 m³ 4.7 yd³	3.6 m³ 4.7 yd³	4.4 m³ 5.8 yd³	5.2 m³ 6.8 yd³
struck	3.5 m³ 4.6 yd³	3.3 m³ 4.3 yd³	3.2 m³ 4.2 yd³	3.2 m³ 4.2 yd³	3.1 m³ 4.1 yd³	3.1 m³ 4.1 yd³	3.9 m³ 5.1 yd³	4.5 m³ 5.9 yd³
Bucket width	3170 mm 10'5"	3190 mm 10'6"	3170 mm 10'5"	3190 mm 10'6"	3190 mm 10'6"	3170 mm 10'5"	3170 mm 10'5"	3170 mm 10'5"
Bucket weight	2050 kg 4,519 lb	1970 kg 4,343 lb	2150 kg 4,740 lb	2200 kg 4,850 lb	2070 kg 4,564 lb	2165 kg 4,773 lb	2110 kg 4,652 lb	2185 kg 4,817 lb
Dumping clearance, max. height and 45° dump angle*	3185 mm 10'5"	3060 mm 10'0"	3235 mm 10'7"	3110 mm 10'2"	3110 mm 10'2"	2975 mm 9'9"	3055 mm 10'0"	3035 mm 9'11"
Reach at max. height and 45° dump angle*	1235 mm 4'1"	1335 mm 4'5"	1185 mm 3'11"	1285 mm 4'3"	1285 mm 4'3"	1435 mm 4'8"	1365 mm 4'6"	1385 mm 4'7"
Reach at 2130 mm (7') clearance and 45° dump angle	1935 mm 6'4"	1975 mm 6'6"	1905 mm 6'3"	1950 mm 6'5"	1950 mm 6'5"	2035 mm 6'8"	2010 mm 6'7"	2020 mm 6'8"
Reach with arm horizontal and bucket level	2755 mm 9'0"	2910 mm 9'7"	2685 mm 8'10"	2840 mm 9'4"	2840 mm 9'4"	3040 mm 10'0"	2940 mm 9'8"	2965 mm 9'9"
Operating height (fully raised)	5960 mm 19'7"	5960 mm 19'7"	5875 mm 19'3"	5875 mm 19'3"	5875 mm 19'3"	5875 mm 19'3"	5960 mm 19'7"	6185 mm 20'4"
Overall length	8825 mm 28'11"	8980 mm 29'6"	8755 mm 28'9"	8910 mm 29'3"	8910 mm 29'3"	9210 mm 29'11"	9010 mm 29'7"	9035 mm 29'8"
Loader clearance circle (35°) (bucket at carry, outside corner of bucket)	15280 mm 50'2"	15380 mm 50'6"	15240 mm 50'0"	15340 mm 50'4"	15340 mm 50'4"	15280 mm 50'2"	15370 mm 50'5"	15380 mm 50'6"
Digging depth: 0°	80 mm 3.1"	100 mm 3.9"	80 mm 3.1"	100 mm 3.9"	100 mm 3.9"	85 mm 3.3"	80 mm 3.1"	80 mm 3.1"
10°	315 mm 1'0"	360 mm 1'2"	305 mm 1'0"	350 mm 1'2"	350 mm 1'2"	370 mm 1'3"	345 mm 1'2"	350 mm 1'2"
Static tipping load: straight	18295 kg 40,330 lb	18370 kg 40,500 lb	18205 kg 40,130 lb	18160 kg 40,040 lb	18275 kg 40,290 lb	18190 kg 40,100 lb	18240 kg 40,210 lb	18175 kg 40,070 lb
40° full turn	15720 kg 34,660 lb	15795 kg 34,820 lb	15630 kg 34,460 lb	15585 kg 34,360 lb	15705 kg 34,620 lb	15615 kg 34,420 lb	15665 kg 34,530 lb	15600 kg 34,390 lb
Breakout force	192 kN 19600 kgf 43,160 lb	207 kN 21120 kgf 46,560 lb	203 kN 20710 kgf 45,660 lb	209 kN 21330 kgf 47,020 lb	220 kN 22450 kgf 49,490 lb	190 kN 19390 kgf 42,750 lb	168 kN 17140 kgf 37,790 lb	165 kN 16840 kgf 37,130 lb
Operating weight	22960 kg 50,620 lb	22880 kg 50,440 lb	23060 kg 50,840 lb	23110 kg 50,950 lb	22980 kg 50,660 lb	23075 kg 50,870 lb	23020 kg 50,750 lb	23095 kg 50,910 lb

* At the end of tooth or B.O.C.

All dimensions, weights, and performance values based on SAE J732c and J742b 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.

Apply the following weight changes to operating weight and static tipping load.



WEIGHT CHANGES

Tires or attachments	Operating weight		Tipping load straight		Tipping load full turn		Width over tires		Ground clearance		Change in vertical dimensions	
	kg	lb	kg	lb	kg	lb	mm	ft in	mm	ft in	mm	ft in
23.5-25-20PR(L-3)	-305	-672	-240	-529	-210	-463	2920	9'7"	460	1'6"	-65	-3"
23.5-25-20PR(L-2)	-615	-1,355	-480	-1,058	-420	-926	2920	9'7"	460	1'6"	-65	-3"
26.5-25-16PR(L-3)	0	0	0	0	0	0	3010	9'11"	525	1'9"	0	0
26.5-25-20PR(L-4)	+425	+937	+330	+728	+290	+639	3010	9'11"	525	1'9"	0	0
Install additional counterweight	+400	+880	+1070	+2,358	+930	+2,050						



STANDARD EQUIPMENT

- 2-spool valve for boom and bucket controls
- Alternator, 50 A
- Auto shift transmission with mode select system
- Back-up alarm
- Back-up lamp
- Batteries, **136 Ah**/12 V x 2
- Counterweight
- Directional signal
- Engine, Komatsu SAA6D125E-5 diesel
- Engine shut-off system, electric
- Hard water area arrangement (corrosion resister)
- Hydraulic-driven fan with reverse rotation
- Lift cylinders and bucket cylinder
- Main monitor panel with EMMS (Equipment Management Monitoring System)
- PPC fingertip control, two levers
- Radiator mask, lattice type
- Rearview mirror for cab
- Rear window washer and wiper
- ROPS/FOPS cab
- Seat belt
- Seat, suspension type with reclining
- Service brakes, wet disc type
- Starting motor, **7.5 kW**/24 V
- Steering wheel, tiltable, telescopic
- Sun visor
- Tires (26.5-25-16PR tubeless) and rims
- Transmission, 4 forward and 4 reverse



OPTIONAL EQUIPMENT

- 12V converter
- 3-spool valve
- Additional counterweight
- Air conditioner
- AM/FM radio
- AM/FM stereo radio cassette
- Batteries, **140 Ah**/12V x 2
- Bucket teeth (bolt-on type)
- Bucket teeth (tip type)
- Cutting edge (bolt-on type)
- ECSS (Electronically Controlled Suspension System)
- Emergency steering (SAE)
- Engine pre-cleaner with extension
- Fire extinguisher
- Floor mat
- Front fender
- High lift boom
- Joystick steering
- Limited slip differential (F&R)
- Load meter, new type
- Lock-up clutch torque converter
- Ordinary spare parts
- Power train guard
- Seat, air suspension with automatic weight adjustment
- Segment edges
- Tool kit
- Vandalism protection kit

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Printed in Japan 201306 IP.SIN

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CEN00133-05

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