KOMATSU

WA380Z-6

Photo may include optional equipment.

Wheel loader

Engine power
143 kW / 192 HP @ 2100 rpm

Operating weight
17130 - 17420 kg

Bucket capacity
2.7 - 4.0 m^3

Walk-around

Engine power
143 kW / 192 HP @ 2100 rpm

Operating weight
17130 - 17420 kg

Bucket capacity
2.7 - 4.0 m³

High productivity & low fuel consumption

- High performance Komatsu SAA6D107E-1 engine
- Low fuel consumption
- Dual-mode engine power select system
- Automatic transmission with shift timing select system
- Variable displacement piston pump & closed-center load sensing system (CLSS)

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

Photo may include optional equipment.

Easy maintenance

- Equipment management monitoring system
- Engine side doors open wide

Excellent operator environment

- Automatic transmission with electronically controlled modulation valve
- Electrically controlled transmission lever
- Variable transmission cut-off system
- Tilt steering column
- Fingertip control levers
- Large, comfortable cab
- Easy entry/exit, rear-hinged doors

Harmony with environment

- U.S. EPA Tier 3 and EU Stage 3A emissions equivalent
- Low fuel consumption

High productivity & low fuel consumption

Low emission engine

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

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 most of general loading.
- P mode: This mode provides maximum power output for hard digging operations or hill climb.

Dual mode engine power selection switch

ECO indicator

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

High performance SAA6D107E-1 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: 141 kW 189 HP

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.

Automatic transmission with mode select system

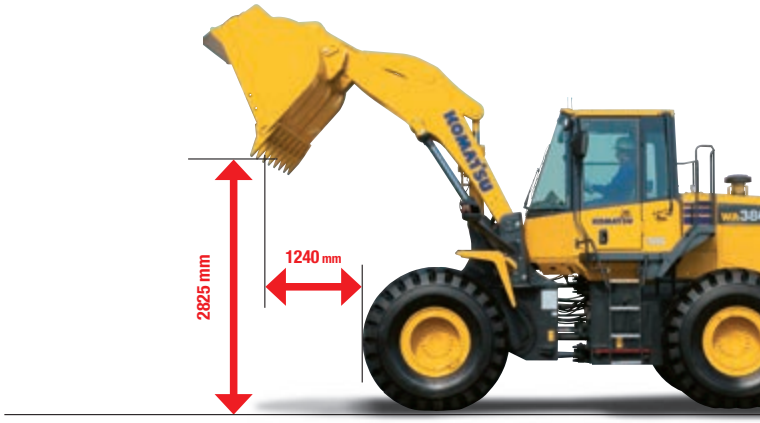
This operator controlled system allows the operator to select manual shifting or two levels of automatic shifting (low and high). Auto L mode is for fuel saving operation with the gear shift timing set at lower speeds than Auto H mode. Therefore Auto L mode keeps the engine in a relatively low rpm range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

Shift mode selection switch

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: 2825 mm
Dumping reach: 1240 mm
(3.1 m^3 bucket with teeth)

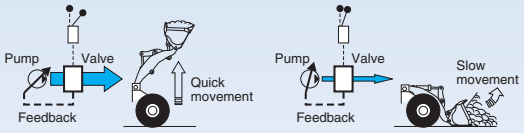


Variable displacement piston pump & closed-center load sensing system (CLSS)

New design variable displacement piston pump combined with the closed-center load sensing system delivers hydraulic flow just as the job requires preventing wasting hydraulic pressure. Minimized waste loss contributes to better fuel economy.

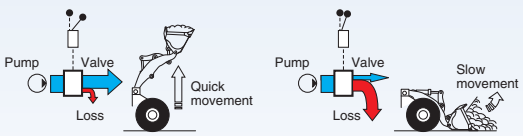
New variable displacement piston pump

The pump delivers only necessary amounts, minimizing waste loss.



Fixed displacement piston pump

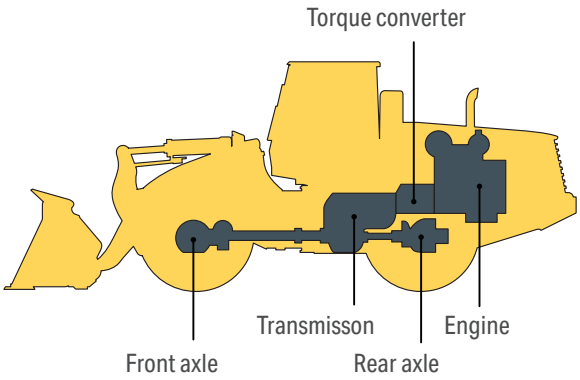
The pump delivers the maximum amount at any time. The unused flow is disposed of.



Increased reliability

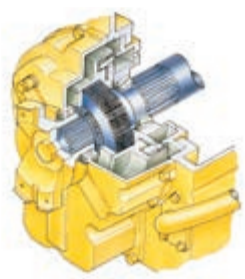
Komatsu components

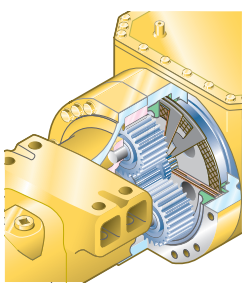
Komatsu manufactures the engine, torque converter, transmission, hydraulic units, and electric parts, and even each bolt on this wheel loader. Komatsu loaders are manufactured with an integrated production system under a strict quality control system.



Wet multi-disc brakes and fully hydraulic braking system

This mean lower maintenance costs and higher reliability. Wet multiple-disc brakes are fully sealed. Contaminants are kept out, reducing wear and resulting 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.



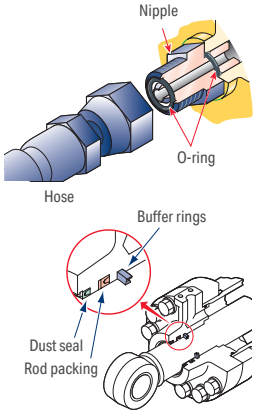


High-rigidity frames and loader linkage

The front and rear frames and loader linkage have more torsional rigidity to secure resistance against stresses increased 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 metal sheet 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 connectors

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

Easy maintenance

Equipment management monitoring system

Monitor is mounted in front of the operator for easy view, 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 the loader has any troubles, the monitor displays action details on the character display at the center bottom of the monitor.
- **Monitor function:** Controller monitors engine oil level, pressure, coolant temperature, air cleaner clogging, etc. If controller finds abnormalities, all of these are displayed on liquid crystal display (LCD).
- **Replacement time notice function:** Monitor informs replacement time of oil and filters on LCD when it reaches replacement intervals.
- **Trouble data memory function:** Monitor stores abnormalities for effective troubleshooting.

Engine side doors open wide

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

Upper stop position

Lower stop position

Operator environment

Electronic 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.

Rear-hinged full open cab doors

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.

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: Boom control 4: Bucket control

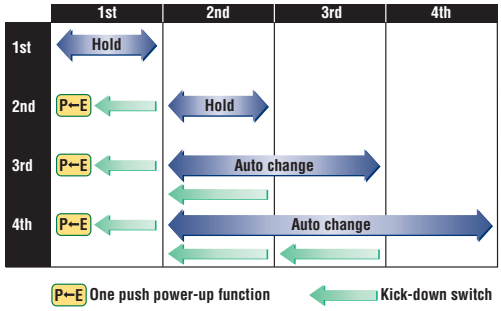
Tilt steering column

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

Automatic transmission with electronic controlled modulation valve

Automatic transmission with electronic controlled modulation valve automatically selects the proper gear speed based on travel speed, engine speed, and other travel conditions. The electronic 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.



Fingertip work equipment control levers with large size arm rest

New pressure proportional control (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 large size arm rest can be adjusted up or down to provide the operator with a variety of comfortable operating positions.

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 reclining and slide adjustment to backward by introducing front mounted air conditioner (AC) unit.

The 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.

Specifications

Engine

Model	Komatsu SAA6D107E-1
Type	Water-cooled, 4-cycle
Aspiration	Turbocharged, after-cooled
No. of cylinders	6
Bore × stroke	107 mm x 124 mm
Displacement	6.69 l
Governor	All-speed, electronic
Engine power	
at rated engine speed	2100 rpm
SAE J1995	Gross 143 kW / 192 HP
ISO 9249/SAE J1349*	Net 141 kW / 189 HP
Fan drive type	Hydraulic
Fuel system	Direct injection
Lubrication system	
Method	Gear pump, force-lubrication
Filter	Full-flow type
Air filter type	Dry type with double elements and dust evacuator, plus dust indicator

* Net horsepower at the maximum speed of radiator cooling fan is 130 kW / 175 HP. US EPA Tier 3 and EU Stage 3A emissions equivalent.

Transmission

Type	Automatic full-powershift, countershaft type
Torque converter	3-element, 1-stage, 1-phase

Speeds in km/h (with 23.5-25 tyres)

Gear	1.	2.	3.	4.
Forward	6.6	11.5	20.2	34.0
Reverse	7.1	12.3	21.5	35.5

Speeds in km/h (with 20.5-25 tyres)

Gear	1.	2.	3.	4.
Forward	6.0	10.6	18.6	31.1
Reverse	6.5	11.3	19.9	33.0

Chassis and tyres

System	4-wheel drive
Front axle	Fixed, semi-floating
Rear axle	Center-pin support, semi-floating, 26˚ total oscillation
Reduction gear	Spiral bevel gear
Differential gear	Conventional type
Final drive	Planetary gear, single reduction

Steering system

System	Articulated frame steering
Type	Completely hydraulic power steering
Steering angle to either side	35˚ each direction (40˚ end stop)
Steering pump	Piston pump
Working pressure	24.5 MPa / 250 kgf/cm²
Pumping capacity	138 l/min
No. of steering cylinders	2
Type	Double-action
Bore diameter × stroke	75 × 442 mm
Smallest turn (center of the tyre)	6320 mm

Hydraulic system

Hydraulic pump	Piston pump
Maximum pump flow	205.5 l/min
Working pressure	31.4 MPa / 320 kgf/cm²
No. of lift/bucket cylinders	2/1
Type	Double-action
Bore diameter × stroke	
Lift cylinder	130 × 713 mm
Bucket cylinder	150 × 535 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	5.9 s
Dumping time	1.8 s
Lowering time (empty)	3.3 s

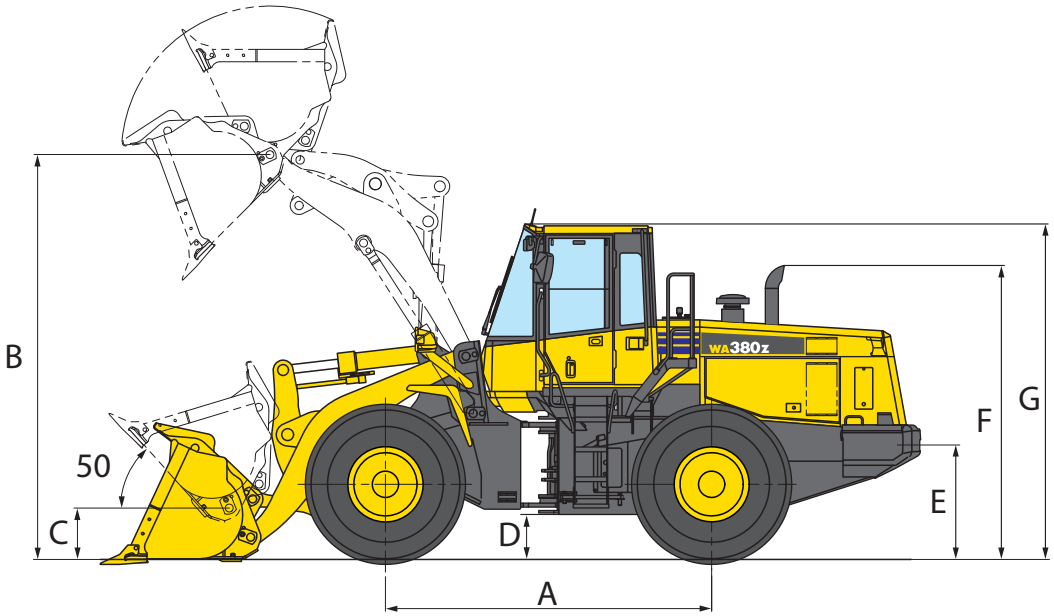
Service refill capacities

Cooling system	29.1 l
Fuel tank	300 l
Engine oil	23 l
Hydraulic system	139 l
Front axle	40 l
Rear axle	40 l
Torque converter and transmission	38 l

Brakes

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

Dimensions



Measurements and working specifications

		Standard boom
	Tread	2160 mm
	Width over tyres	2780 mm
A	Wheel base	3300 mm
B	Hinge pin height, max.	4095 mm
C	Hinge pin height, carry position	520 mm
D	Ground clearance	455 mm
E	Hitch height	1150 mm
F	Overall height, top of the stack	2975 mm
G	Overall height of cab	3390 mm

Measured with 23.5-25-16PR (L-3) tyres

Change in data caused by:

Tyres / attachment	Operating weight	Tipping load straight	Tipping load full turn	Width over tyres	Ground clearance	Change in vertical dimensions
	kg	kg	kg	mm	mm	mm
23.5-25-16PR (L-3)	0	0	0	2780	455	0
20.5-25-16PR (L-3)	-970	-770	-680	2695	390	-65
Add. counterweight	+340	+900	+755	0	0	0

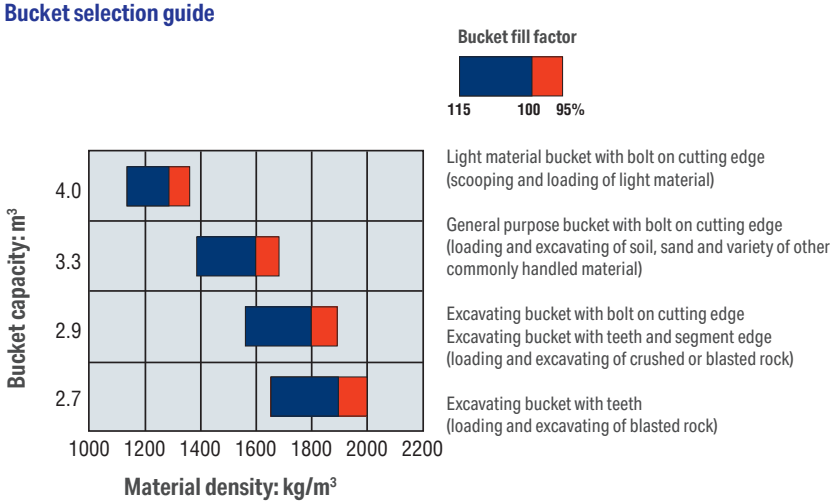
Dimensions

Measured with 23.5-25-16PR (L-3) tyres

Standard boom		General purpose buckets		Excavating bucket			Light material bucket
		Bolt-on cutting edges	Teeth	Bolt-on cutting edges	Teeth and segments	Teeth	Bolt-on cutting edges
Bucket capacity:	heaped	3.3 m³	3.1 m³	2.9 m³	2.9 m³	2.7 m³	4.0 m³
	struck	2.9 m³	2.7 m³	2.4 m³	2.4 m³	2.3 m³	3.4 m³
Bucket width		2905 mm	2925 mm	2905 mm	2925 mm	2925 mm	2905 mm
Bucket weight		1620 kg	1540 kg	1720 kg	1765 kg	1645 kg	1835 kg
Dumping clearance, max. height and 45˚ dump angle*		2950 mm	2825 mm	3025 mm	2905 mm	2905 mm	2855 mm
Reach at max. height and 45˚ dump angle*		1150 mm	1240 mm	1045 mm	1140 mm	1140 mm	1220 mm
Reach at 2130 mm clearance and 45˚ dump angle		1730 mm	1765 mm	1675 mm	1715 mm	1715 mm	1755 mm
Reach with arm horizontal and bucket level		2585 mm	2745mm	2445 mm	2615 mm	2615 mm	2710 mm
Operating height (fully raised)		5600 mm	5600 mm	5485 mm	5485 mm	5485 mm	5735 mm
Overall length		8140 mm	8295 mm	8000 mm	8155 mm	8155 mm	8265 mm
Loader clearance circle (bucket at carry, outside corner of bucket)		14420 mm	14520 mm	14350 mm	14450 mm	14450 mm	14480 mm
Digging depth:	0˚	60 mm	75 mm	60 mm	75 mm	75 mm	60 mm
	10˚	290 mm	335 mm	270 mm	315 mm	315 mm	315 mm
Static tipping load:	straight	14415 kg	14560 kg	14360 kg	14335 kg	14485 kg	14075 kg
	40˚ full turn	12470 kg	12610 kg	12410 kg	12380 kg	12530 kg	12140 kg
Breakout force		158 kN	170 kN	176 kN	183 kN	191 kN	144 kN
Operating weight		17200 kg	17130 kg	17300 kg	17350 kg	17230 kg	17420 kg

*At the end of tooth or bolt on cutting edge (B.O.C.).
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, cab, and operator. Machine stability and operating weight affected by counterweight, tyre size, and other attachments.
Apply the following weight changes to operating weight and static tipping load.

Bucket selection guide



Light material bucket with bolt on cutting edge
(scooping and loading of light material)

General purpose bucket with bolt on cutting edge
(loading and excavating of soil, sand and variety of other commonly handled material)

Excavating bucket with bolt on cutting edge
Excavating bucket with teeth and segment edge
(loading and excavating of crushed or blasted rock)

Excavating bucket with teeth
(loading and excavating of blasted rock)

Notes

Notes

Standard equipment

Engine/power train
- Air cleaner with dust indicator
- Engine, Komatsu SAA6D107E-1 diesel
- Engine shut-off system, electric
- Parking brake, electric
- Service brakes, wet disc type
- Transmission, 4 forward and 4 reverse
- Engine pre-cleaner

Electrical system
- Alternator, 60 A
- Back-up alarm
- Back-up lamp
- Batteries, 2 x 12 V/136 Ah
- Directional signal
- Engine shut-off system, electric
- Starting motor, 24 V/5.5 kW

Hydraulic system
- 2-spool valve for boom and bucket controls
- Hydraulic-driven fan
- Lift cylinders and bucket cylinder
- Water separator

Cab
- Air conditioner
- Automatic shift transmission with mode select system
- Floor mat
- Main monitor panel with equipment management monitoring system
- PPC fingertip control, 2 levers
- Rear defroster (electric)
- Rear-view mirror
- Rear window washer and wiper
- Seat belt
- Seat, suspension type with reclining
- Steering wheel, tiltable
- Sun visor

Work equipment
- Boom kick-out
- Bucket positioner
- Bucket teeth (bolt-on type)
- Counterweight
- Loader linkage with standard lift boom

Other equipment
- Front fender
- Fuel pre-filter with water separator
- Ordinary spare parts
- Radiator mask
- Tool kit
- Tyres (23.5-25-16PR, L-3)

Optional equipment

Engine/power train
- Limited slip differential (F&R)

Electrical system
- Batteries, 2 × 12 V/140 Ah

Hydraulic system
- 3-spool valve
- Secondary steering (ISO 5010)

Cab
- AM/FM radio
- Deluxe suspension seat

Work equipment
- Additional counterweight
- Bucket teeth (tip type)
- Counterweight for log
- Cutting edge (bolt-on type)
- High-lift boom
- Log grapple

Other equipment
- Mud guard
- Power train guard
- Rear under view mirror
- Vandalism protection kit

Your Komatsu partner:

KOMATSU

komatsu.com