

KOMATSU®

WA320-5

NET HORSEPOWER
124 kW **166 HP** @ 2000 rpm

OPERATING WEIGHT
13880 – 14214 kg
30,600 – 31,337 lb

BUCKET CAPACITY
2.3 – 3.2 m³ **3.0 – 4.2 yd³**

WA
320

W
H
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D
E
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Photos may include optional equipment.

GALEO

WALK-AROUND

Komatsu-integrated design offers the best value, reliability, and versatility. Hydraulics, powertrain, frame, and all other major components are engineered by Komatsu. You get a machine whose components are designed to work together for higher production, greater reliability, and more versatility.

Expanded main monitor and troubleshooting display

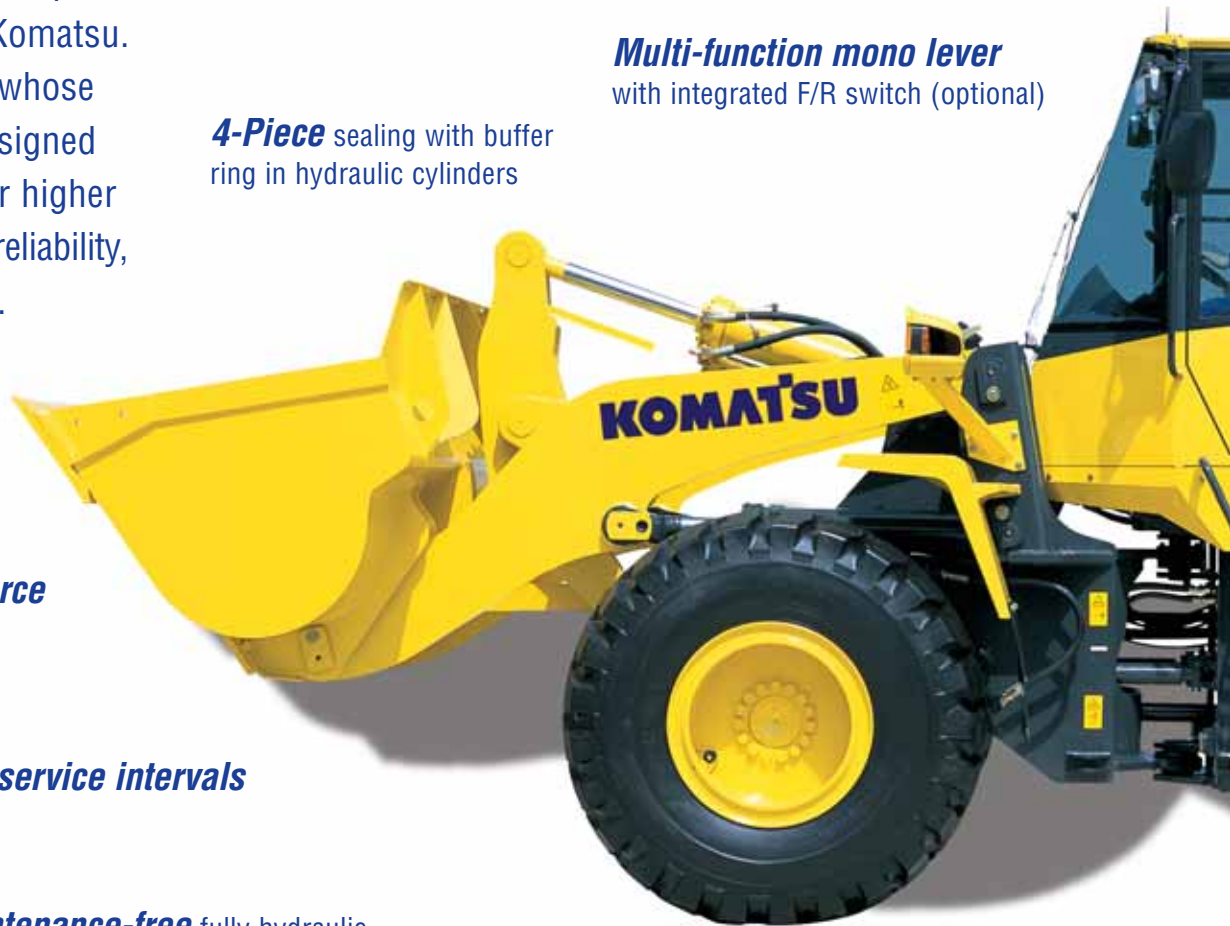
Reduced operator noise to 70 dB(A)

Larger cab with new layout design

New tilt steering column

Multi-function mono lever with integrated F/R switch (optional)

4-Piece sealing with buffer ring in hydraulic cylinders



Large breakout force

Extended service intervals

Maintenance-free fully hydraulic wet multi-disc service and mechanical wet multi-disc parking brakes

Electronically controlled Hydrostatic Transmission (HST) with variable shift control system

Traction control system

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A powerful and efficient **SAA6D102E-2 Komatsu engine** is Tier 2 EPA, EU and Japan emissions certified

Full side opening
gull-wing engine doors

Radial sealed
air cleaner

Sealed DT
electrical connectors

Swing-out hydraulic
radiator fan

Side-by-side type coolers
for easy access and cleaning



Overrun protection system

Ground level servicing
and fluid checks

Extremely low
fuel consumption

Flat face "O-Ring" hydraulic seals
for extended life

Staircase-type steps
with large rear-hinged doors

Photos may include optional equipment.



Komatsu's highly productive, innovative technology, environmentally friendly machines built for the 21st century.

PRODUCTIVITY FEATURES

High Productivity and Low Fuel Consumption

Powerful Engine

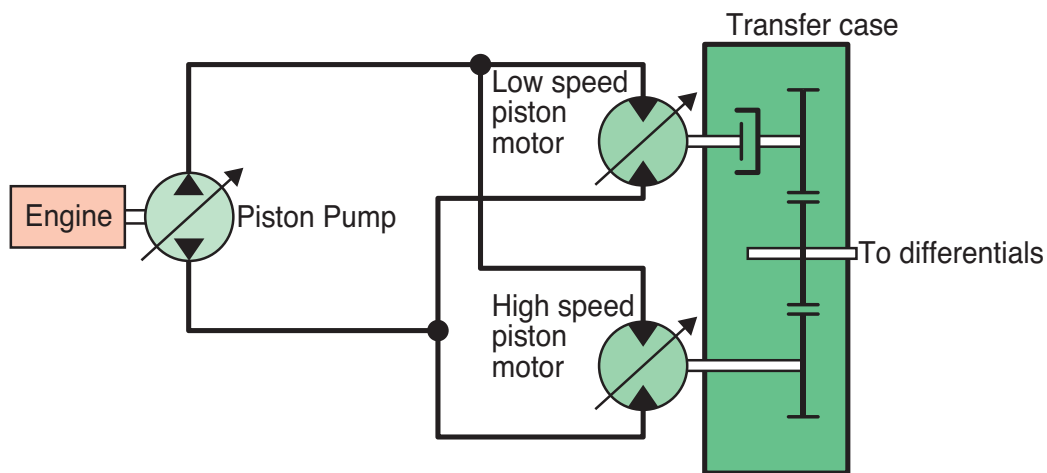
A powerful SAA6D102E-2 turbocharged air-to-air aftercooled diesel engine provides an output of 124 kW **166 HP** for the WA320-5. This engine is Tier 2 EPA, EU and Japan emissions certified without sacrificing power or machine productivity.

Low Fuel Consumption

The fuel consumption is reduced up to 15% due to the high-torque engine and Hydrostatic Transmission (HST) with maximum efficiency in the low-speed range.

Electronically-Controlled HST Using a 1-Pump, 2-Motor System

- The 1-pump, 2-motor system allows for high-efficiency and high tractive effort. Engine power is transmitted hydraulically to a transfer case, then manually out to the differentials and out to the four driving wheels.
- HST provides quick travel response and aggressive drive into the pile. The variable displacement system automatically adjusts to the tractive effort demand to provide maximum power and efficiency.
- Full auto-shifting eliminates any gear shifting and kick-down operation to allow the operator to concentrate on digging and loading.
- When high drive torque is needed for digging, climbing or initiating movement, the pump feeds both motors. This combination makes the loader very aggressive and quick.
- Under deceleration, the HST system acts as a dynamic brake on the mechanical drive system. The dynamic brake can hold the loader in position on most workable slopes. This can be an advantage in stockpiling and ramp loading.
- As the machine moves and gains ground speed, the torque demand decreases and the low speed motor is effectively removed from the drive system by a clutch. At this point, the flow is going to the high-speed motor and the low-speed motor is not causing a drag on the system.
- An inching pedal provides excellent simultaneous control of travel and equipment hydraulic speeds. By depressing the inching pedal, drive pump flow to the motors will decrease, reducing ground speed and allowing the operator to use the accelerator to increase flow to the equipment hydraulics. Depressing the inching pedal further will activate the service brakes.



Electronically-Controlled HST with Variable Shift Control System

The operator can choose from four speed settings by dialing the speed range selector switch.

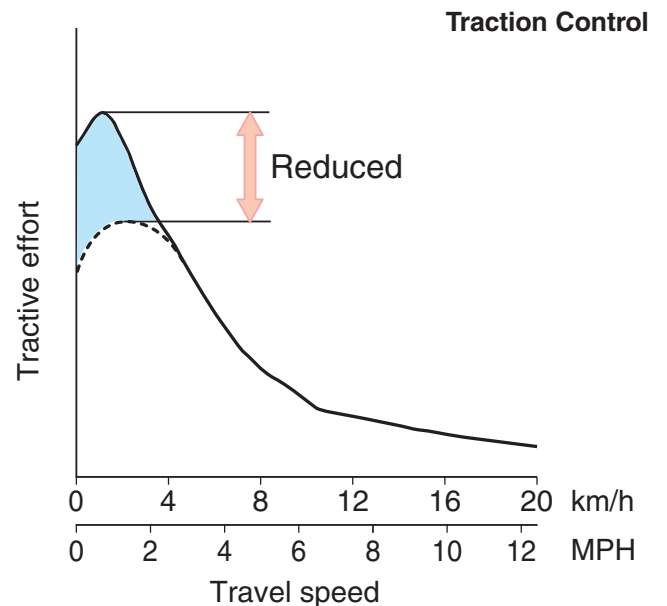
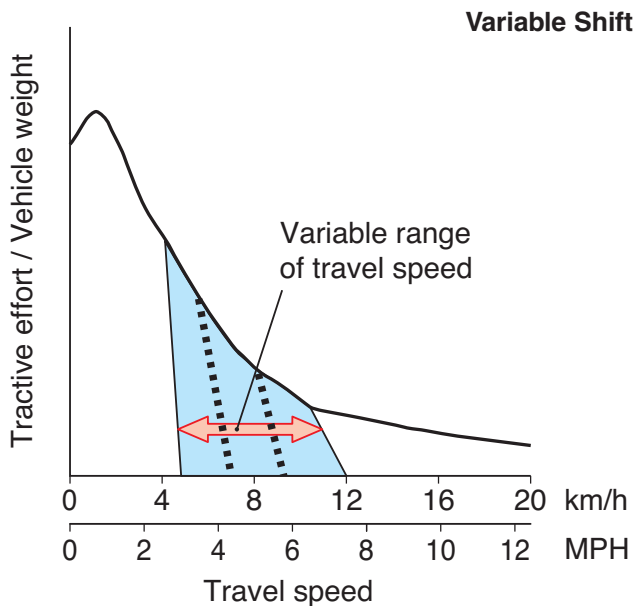
For V-cycles, the operator can set the speed control switch to 1 or 2, which provides aggressive digging, quick response and fast hydraulics. For load and carry, select 3 or 4 which still provides aggressive digging but with much faster travel speed.



The variable shift switch allows the operator to adjust the machine speed in confined V-loading applications. When in 1, the operator can adjust travel speed using the variable shift control switch to match machine speed and hydraulics to the travel distance. This feature will also be an advantage when powering a broom.

Traction Control System

The traction control system reduces tire slippage in limited traction situations (such as sandy or wet surface operations). Placing the traction control switch in the "ON" position automatically reduces tire slippage by limiting the maximum amount of tractive effort to 50%. Traction control will be an advantage in certain applications such as transfer stations where the loader may be working on slippery concrete. The traction control operates in 2nd, 3rd and 4th speed.



INCREASED RELIABILITY AND SERVICEABILITY

Main Monitor - EMMS (Equipment Management Monitoring System)

Komatsu's new main monitor keeps the operator informed of all machine functions at a glance. The monitor is located behind the steering wheel and displays 28 different machine functions including fluid/filter change intervals and troubleshooting memory display functions. The main gauges are analog type for easy viewing and other functions utilize light symbols or LCD readouts.



Swing-Out Cooling Fan

The new Komatsu cooling system is isolated from the engine to provide more efficient cooling and low noise. The swing-out hydraulic fan allows the operator to quickly clean out the cooling system.



The radiator, air-to-air cooler and oil cooler are mounted side-by-side for more efficient cooling and easy cleaning. A fully-opening, gas spring assisted rear grill gives the operator excellent access to the swing-out fan and coolers.

Full Side-Opening Gull-Wing Engine Doors

Ground level engine service and daily service checks are made easy with the gas spring assisted full side opening gull-wing doors.



Extended Service Interval

Extended engine oil service interval:

250 H → 500 H

Extended drive shaft greasing interval:

1,000 H → 4,000 H



Overrun Prevention System

When the machine descends a slope of six degrees or less, maximum travel speed is automatically restricted to approximately 38 km/h **24 MPH**, for safety protection against damage of power train components and brakes by sensing the travel speed and controlling the discharge amount of the HST pump and motor. When the machine descends a steep slope and the travel speed reaches 36 km/h **24 MPH**, the caution lamp lights up to inform the operator to reduce the travel speed.

Note: When the machine descends a steep slope, the use of the service brake is necessary to limit travel speed.

Fully Hydraulic Wet Multi-Disc Service Brakes

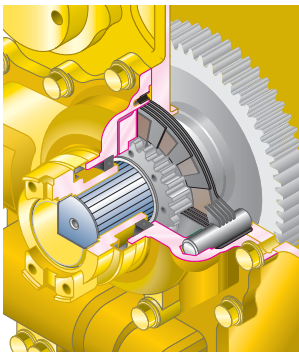
The dual wet disc brakes at each wheel are fully sealed and adjustment free to reduce contamination, wear and maintenance. The result is lower maintenance costs and higher reliability.

Added dependability is designed into the braking system by the use of two independent hydraulic circuits, providing hydraulic backup should one of the circuits fail.

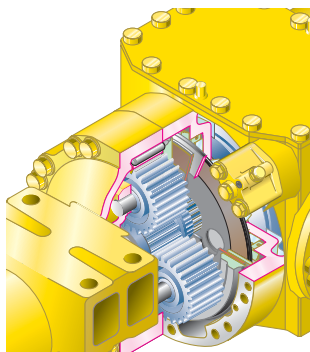
If the brake oil pressure drops, the warning lamp flashes and the warning buzzer sounds intermittently.

The parking brake is also wet multi-disc (it is fully sealed and adjustment free), acting on the output shafts of the transfer case. The parking brake is mechanically controlled by a lever in the cab.

Parking Brake



Service Brakes



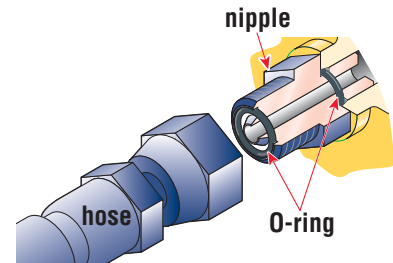
High-Rigidity Frames

The front and rear frames along with the loader linkage have high rigidity to withstand repeated twisting and bending loads to the loader body and linkage. Both the upper and lower center pivot bearings use tapered roller bearings for increased durability. The structure is similar to those of large sized loaders and the reinforced loader linkage ensures high strength.



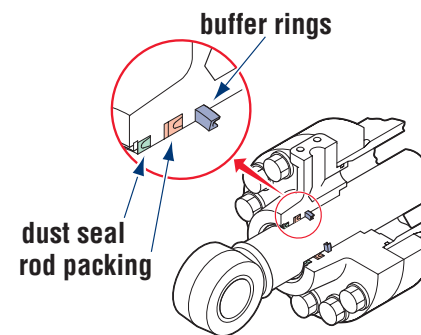
Flat Face-to-Face O-Ring Seals

Flat face-to-face O-ring seals are used to securely seal all hydraulic hose connections and to prevent oil leakage.



Cylinder Buffer Rings

Buffer rings are installed to the head-side of the hydraulic cylinders to lower the load on the rod seals, prolonging cylinder life by 30% and maximizing overall reliability.



Cathion Electrodeposition Primer Paint/Powder Coating Final Paint

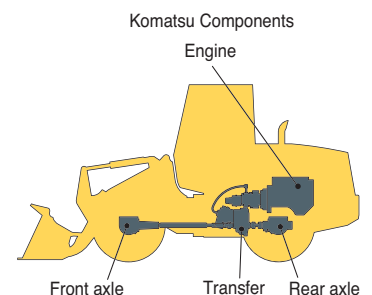
Cathion electrodeposition paint is applied as a primer paint and powder coating is applied as a topcoat to the exterior metal sheet parts. This process results in a durable rust-free machine, even in the most severe environments. Some external parts are made of plastic to provide long life and high impact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

Sealed DT Connectors

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

Komatsu Powertrain Components

Komatsu manufactures the engine, transfer case, differentials and electric parts on this wheel loader. Komatsu loaders are manufactured with an integrated production system under a strict quality control system.



OPERATOR COMFORT

New Cab Layout

Komatsu's new cab layout provides the operator with a roomy, quiet and efficient work environment. The low noise level inside the cab leads the industry at 70 dB(A) and loader controls are ergonomically designed to reduce operator fatigue and increase productivity.

Two Door Walk-Through Cab

Entry and exit into the new Komatsu cab starts with sloped staircase type steps and large diameter handrails for added safety and comfort. The large cab doors are rear-hinged to open 130 degrees offering easy entry/exit and will not hamper visibility when operating the machine with the doors latched open. A wide pillar-less flat glass windshield provides for excellent visibility. The wiper arm covers a large area to provide great visibility even on rainy days.

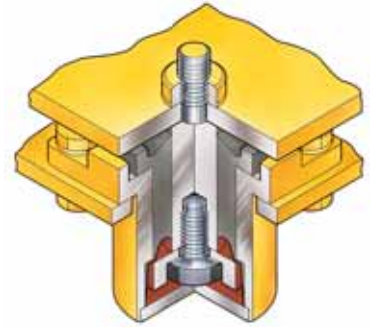


Low-Noise Design

Operator noise: 70 dB(A)

Dynamic noise (outside): 104 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, and comfortable operating environment. Pressurization in the cab keeps dirt out further enhancing the operator's comfort.

Electronically Controlled Directional Lever

The solid state electronic transmission shift control provides easy directional changes. The steering column mounted control lever can be operated without removing the operator's hand from the steering wheel, allowing improved comfort and control. The operator can use either the transmission directional control lever on the steering column or the transmission forward and reverse switch on the Multi-function Loader Control Lever (optional).



Finger Tip Control Levers

Komatsu now offers new finger tip operated hydraulic control levers. This feature matches well with the pilot pressure controlled hydraulics to reduce operator fatigue, improve fine work equipment control and increase overall productivity. The adjustable wrist rest provides the operator with a variety of comfortable operating positions.

Tilttable Steering Column

The operator can tilt the steering column to allow maximum comfort and control. The two-spoke steering wheel allows maximum visibility of the monitor panel and forward work environment.

Comforts of Home

The large cab allows room for a large lunch box holder, a variety of cup holders and a hot/cold box storage area. Optional air conditioning and the optional AM/FM cassette system create a comfortable and controlled work environment.

Multi-Function Loader Control Lever With Forward & Reverse Switch (Optional)

A new optional multi-function control lever integrated with forward and reverse switch allows the operator to easily operate the work equipment, to reduce operator fatigue and to increase controllability.



WA320-5 WHEEL LOADER

SPECIFICATIONS



ENGINE

Model Komatsu SAA6D102E-2
 Type Water-cooled, 4-cycle
 Aspiration Turbocharged, and air-to-air aftercooled
 Number of cylinders 6
 Bore x stroke 102 mm x 120 mm **4.0" x 4.7"**
 Piston displacement 5.98 ltr **359 in³**
 Governor Mechanical, all-speed control
 Horsepower rating @ 2000 rpm (SAE J1349)
 Gross horsepower 127 kW **170 HP**
 Net horsepower 124 kW **166 HP**

Tier 2, EU and Japan emissions certified

Fuel system Direct injection
 Lubrication system
 Method Gear pump, force-lubrication
 Filter Full-flow
 Air cleaner Dry-type with double radial-sealed elements
 and dust evacuator, plus dust indicator



TRANSMISSION

Transmission Hydrostatic, 1 pump, 2 motors
 with speed range select

Travel Speed*	Forward		Reverse	
	km/h	mph	km/h	mph
1st**	4.0 - 13.0	2.5 - 8.1	4.0 - 13.0	2.5 - 8.1
2nd	13.0	8.1	13.0	8.1
3rd	18.0	11.2	18.0	11.2
4th	38.0	23.6	38.0	23.6

*Measured with 20.5/25 (L2) tires

**1st speed can be set variably



AXLES AND FINAL DRIVES

Drive system Four-wheel drive
 Front Fixed, semi-floating
 Rear Center-pin support, semi-floating
 30° total oscillation

Reduction gear Spiral bevel gear
 Differential gear Torque proportioning
 Final reduction gear Planetary gear, single reduction



BRAKES

Service brakes Hydraulically-actuated, wet multi-disc
 brakes actuate on four wheels.
 Parking brake Wet, multi-disc brake on transfer output shaft.
 Emergency brake Independent service brake system
 (front and rear)



STEERING SYSTEM

Type Orbital, full-hydraulic power
 steering independent of engine rpm
 Steering angle 40° each direction
 Minimum turning radius at the
 center of outside tire 5160 mm **16'11"**



BUCKET CONTROLS

The use of a PPC hydraulic control valve offers lighter operating effort for the work equipment control levers. The reduction in the lever force and travel makes it easy to operate in the work environment.

Control positions

Boom Raise, hold, lower, and float
 Bucket Roll back, hold, and dump



HYDRAULIC SYSTEM

Capacity (discharge flow) @ engine-rated rpm

Maximum flow for loader circuit
 Loader + steering pump . . .61 + 172 ltr/min **16.1 + 45.4 U.S. gal/min**
 Pilot pump54 ltr/min **14.3 U.S. gal/min**
 (Gear-type pumps)

Relief valve setting

Loader210 kg/cm² 20.6 MPa **3,000 psi**
 Steering210 kg/cm² 20.6 MPa **3,000 psi**

Control valve 2-spool open center type

Hydraulic cylinders

Loader and steering Double-acting, piston

Hydraulic Cylinders	Number of Cylinders	Bore		Stroke	
		mm	in	mm	in
Boom	2	140 mm	5.5"	740 mm	29.1"
Bucket	1	160 mm	6.2"	535 mm	21.0"
Steering	2	70 mm	2.8"	453 mm	17.8"

Hydraulic cycle time (rated load in bucket)

Raise 6.1 sec
 Dump 1.2 sec
 Lower (empty) 3.3 sec
 Total cycle time 10.6 sec

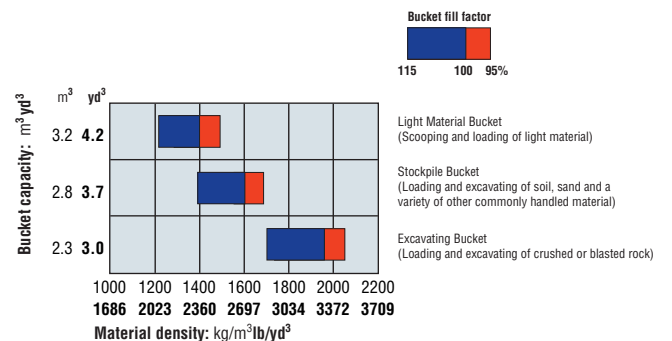


SERVICE REFILL CAPACITIES

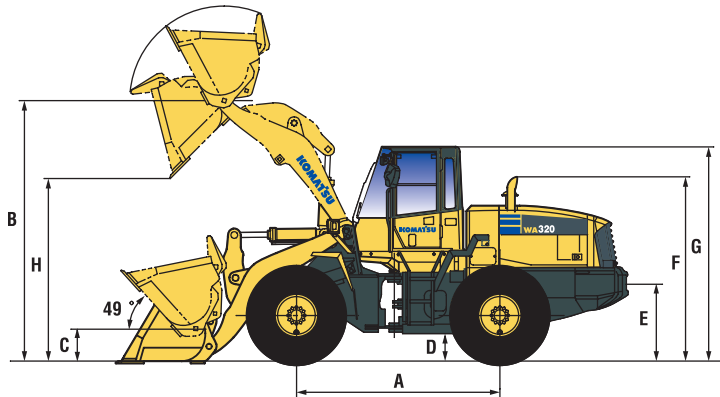
Cooling system 18.5 ltr **4.8 U.S. gal**
 Fuel tank 228.0 ltr **60.2 U.S. gal**
 Engine 19.5 ltr **5.2 U.S. gal**
 Hydraulic system 89.0 ltr **23.5 U.S. gal**
 Axle (each, front and rear) 24.0 ltr **6.3 U.S. gal**
 Transfer 6.5 ltr **1.7 U.S. gal**



BUCKET SELECTION GUIDE



DIMENSIONS



Tread	2050 mm	6'9"
Width over tires	2585 mm	8'6"
A Wheelbase	3030 mm	9'11"
B Hinge pin height at Max. height:	Standard Boom	3905 mm 12'10"
	High Lift Boom	4545 mm 14'11"
C Hinge pin height at carry position:	Standard Boom	390 mm 1'3"
	High Lift Boom	641 mm 2'1"
D Ground clearance	425 mm	1'5"
E Hitch height	1095 mm	3'7"
F Overall height, top of stack	2775 mm	9'1"
G Overall height ROPS cab	3200 mm	10'6"
H See Dumping Clearance Below		

Measured with 20.5-25-12PR (L2) tires

Bucket		Stockpile Bucket With Bolt-on Cutting Edge		Excavating Bucket With Bolt-on Cutting Edge		Light Material Bucket With Bolt-on Cutting Edge		High Lift Boom Excavating Bucket With Bolt-on Cutting Edge	
Bucket Capacity	Heaped	2.8 m ³	3.7 yd³	2.3 m ³	3.0 yd³	3.2 m ³	4.2 yd³	2.3 m ³	3.0 yd³
	Struck	2.4 m ³	3.1 yd³	2.0 m ³	2.6 yd³	2.8 m ³	3.7 yd³	2.0 m ³	2.6 yd³
Bucket Width		2740 mm	9'0"	2740 mm	9'0"	2740 mm	9'0"	2740 mm	9'0"
Bucket Weight		1240 kg	2,734 lb	1330 kg	2,932 lb	1430 kg	3,153 lb	1330 kg	2,932 lb
Static Tipping Load	Straight	12200 kg	26,896 lb	12110 kg	26,698 lb	12010 kg	26,478 lb	9928 kg	21,888 lb
	40° full turn	10610 kg	23,391 lb	10530 kg	23,215 lb	10440 kg	23,016 lb	8637 kg	19,041 lb
Dumping Clearance, maximum height and 45° dump angle		2850 mm	9'4"	2995 mm	9'8"	2715 mm	8'11"	3596 mm	11'10"
Reach at 2130 mm 7' 45° dump angle		1570 mm	5'2"	1675 mm	5'6"	1435 mm	4'8"	2081 mm	6'10"
Reach at maximum height and 45° dump angle (H)		1035 mm	3'5"	930 mm	3'1"	1170 mm	3'10"	948 mm	3'1"
Reach with arm horizontal and bucket level		2420 mm	7'11"	2275 mm	7'6"	2610 mm	8'7"	2784 mm	9'2"
Operating Height Fully raised		5330 mm	17'6"	5145 mm	16'11"	5415 mm	17'9"	5773 mm	18'11"
Overall Length Bucket on Ground		7455 mm	24'6"	7310 mm	24'0"	7645 mm	25'1"	7943 mm	26'1"
Turning radius*		6090 mm	20'0"	6030 mm	19'9"	6165 mm	20'3"	6305 mm	20'8"
Digging Depth	0°	85 mm	3.3"	85 mm	3.3"	85 mm	3.3"	131 mm	5'2"
	10°	296 mm	11.6"	275 mm	11.0"	322 mm	1'1"	316 mm	1'1"
Breakout Force		13180 kg	29,057 lb	15100 kg	33,290 lb	11280 kg	24,868 lb	13604 kg	29,992 lb
Operating Weight		13880 kg	30,600 lb	13970 kg	30,799 lb	14070 kg	31,019 lb	14214 kg	31,337 lb

* Bucket at carry, outside corner of bucket. At the end of tooth or BOCE.

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, additional counterweight and operator. Machine stability and operating weight affected by counterweight, tire size, and other attachments.

Weight Changes

	Change in Operating Weight		Change in Tipping Load				Width Over Tire		Ground Clearance		Change in Vertical Dimensions	
			Straight		Full Turn							
20.5/25-12PR (L3)	160 kg	353 lb	120 kg	265 lb	104 kg	229 lb	2585 mm	8'6"	425 mm	1'5"	0 mm	0"
Install ROPS canopy (instead of cab)	-150 kg	-331 lb	-107 kg	-239 lb	-93 kg	-205 lb	N/A	N/A	N/A	N/A	N/A	N/A
Remove additional counterweight	-520 kg	-1146 lb	-1070 kg	-2359 lb	-940 kg	-2072 lb	N/A	N/A	N/A	N/A	N/A	N/A



STANDARD EQUIPMENT

- Alternator, 60A, 24 volt
- Automatic boom kickout
- Axles, semi floating with torque proportioning
- Back-up alarm
- Back-up light, rear
- Batteries, 150 Ah/2 x 12 V, 1000 CCA
- Bucket positioner, automatic
- Cab (ROPS/FOPS) with adjustable wrist rest, cigarette lighter/ash tray, dome light, electrically heated rear window, floor mat, front (intermittent) and rear wiper/washer, rear view mirrors (2 outside, 2 inside), right hand and left hand door access with steps, sun visor
- Counterweight, standard
- Differentials, torque proportioning
- EMMS (Equipment Management Monitoring System)
 - Gauges (speedometer, engine water temperature, fuel level, HST oil temperature)
 - LCD displays (filter/oil replacement time, HST selection, odometer, service meter, trouble shooting)
- Lights (axle oil temperature, battery charge, brake oil pressure, central warning, directional indicator, engine oil pressure, engine pre-heater, HST oil filter clogging, high beam, maintenance, parking brake reminder, parking brake warning, steering oil pressure, transmission speed range, turn signals)
- Engine, Komatsu SAA6D102E-2
- Engine shut-off system, electric
- Fan, hydraulic driven, swing out
- Fenders, full front, partial rear
- Fuel water separator
- Horn, electric
- Lift cylinders and bucket cylinder
- Lifting eyes
- Lights
 - Stop and tail
 - Turn signal (2 front, 2 rear)
 - Working (2 front, 2 rear, 2 outside cab)
- Loader linkage with standard lift boom
- Maintenance monitor panel
- 2 lever loader control
- Parking brake, wet multi-disc, mechanical
- Radiator mask, hinged
- Seat belt, retractable, 76 mm 3" wide
- Seat, cloth, suspension, reclining with armrests and headrest, and a document holder
- Service brakes, hydraulic, wet multi-disc, inboard
- Speedometer (mph)
- Starting aid, intake manifold preheater
- Starting motor, 5.5 kW/24 V
- Steering wheel, tiltable
- Tires 20.5/25-12PR (L2), tubeless and rims
- Transmission (Hydrostatic with speed range select), automatic
- Transmission control, electric, steering column
- 2-spool valve for boom and bucket controls with PPC
- Vandalism protection kit



OPTIONAL EQUIPMENT

- Air conditioner with heater/defroster/pressurizer
 - Air ride seat
 - Auxiliary steering
 - Bucket, excavating, 2.3 m³ **3.0 yd³**
 - Bucket, stockpile, 2.8 m³ **3.7 yd³**
 - Bucket, light material, 3.2 m³ **4.2 yd³**
 - Bucket teeth, bolt-on
 - Counterweight, additional 520 kg **1,146 lb**
 - Cutting edge, bolt-on, reversible
 - ECSS (Electronically Controlled Suspension System)
 - Fenders, rear full
 - Heater and defroster
 - High-lift boom arrangement
 - Hydraulic adapter kit (3rd spool), includes valve, lever, and piping
 - JRB hydraulic quick coupler
 - JRB bucket, general purpose, for use with coupler, with BOCE 2.6 m³ **3.5 yd³**
 - JRB construction forks, for use with coupler, 1524 mm mm **60"**
 - JRB construction forks, for use with coupler, 1372 mm mm **54"**
 - JRB extendable boom, 3-section, for use with coupler
 - Limited-slip differential, front and rear
 - Mono-lever loader control with transmission F/R switch
 - Radio, AM/FM stereo with cassette
 - Rims only, less tires
 - Fits 20.5/25, and 550/65 tires
 - ROPS canopy
 - Tires (bias ply)
 - 20.5/25-12PR (L3)
 - 20.5/25-16PR (L3)
- Brand preference, Goodyear
- Tires (radial ply)
 - 20.5-R25 VUT (L2) Bridgestone
 - 20.5-R25 XTLA (L2) Michelin
 - 20.5-R25 XHA (L3) Michelin
 - 20.5-R25 VMT (L3) Bridgestone
 - 550/65 R25 XTLA (L2) Michelin
 - 550/65 R25 XLD (L3) Michelin
 - Vinyl seat

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