

KOMATSU

WA700-8



Photos may include optional equipment.

Wheel loader

Engine power

Gross : 578 kW 775 HP @2000 min⁻¹

Net : 577 kW 773 HP @2000 min⁻¹

Operating weight

97100 kg

Bucket capacity

9.2 m³

Horsepower

Gross : 578 kW 775 HP @2000 min⁻¹

Net : 577 kW 773 HP @2000 min⁻¹

Operating weight

97100 kg

Bucket capacity

9.2 m³

Safety

- KomVision camera
- Rear view monitoring system
- LED lighting package

Ecology

- Komatsu's U.S. EPA Tier 4 Final and E.U. Stage V emission regulations-compliant engine
- Technologies applied to new engine

Productivity & economy features

- New engine technology and control system
- Redesigned Komatsu bucket
- Increased lifting force
- Komatsu SmartLoader Logic
- Large-capacity torque converter with standard lock-up
- Large dumping clearance

Operator environment

- New operator seat with control levers
- Advanced Joystick Steering System (AJSS)
- Automatic digging system
- Semi-auto Approach & Dump System



Exceptional productivity and operator environment

Perfect matching for loading onto 60 t class dump trucks

Durability & reliability features

- Common use of upper model components
- Long-life frame and loader linkage

Information & Communication Technology (ICT)

- High resolution 7-inch colour Liquid Crystal Display (LCD) monitor
- Energy saving operation eco guidance
- KOMTRAX Plus

Maintenance features

- Swing-out type cooling fan and wide core radiator
- Machine lock out system
- Walk-through around the cab
- Modular radiator core system
- Service centre



Productivity & economy features

New engine technology and control system

Overwhelming workability added to environmental performance for the next generation. Komatsu wheel loader WA700-8 series move to a new stage. Optimum power and loss reduction eliminate useless fuel consumption and improve fuel consumption efficiency.

SAA6D170E-7 Engine rated output

Gross power 578 kW

* Compared with WA700-3 +8%UP

Gross torque 3407 N·m

* Compared with WA700-3 +15%UP

Redesigned Komatsu bucket

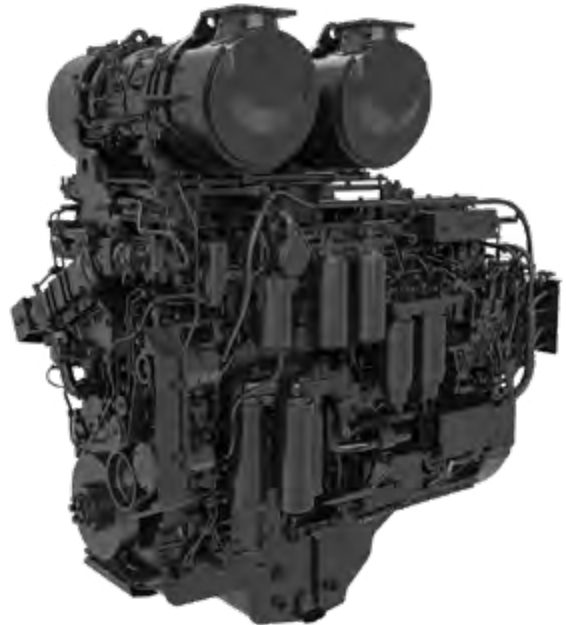
The redesigned Komatsu bucket is designed for improved productivity and durability. The bucket has a new shape with an increased radius and floor inclination that make the bucket easier to fill and helps improve material retention. The spill guard design was adjusted to give operators improved visibility to the pile. Sweeper wings on either side of the bucket help to protect the front tyres.



Rated load

16.6 t (Increased by 6%)

* Compared with WA700-3



Increased lifting force

Increase in lifting force provides high productivity.

Lift force at boom top

211 kN (Increased by 6%)

* Compared with WA700-3

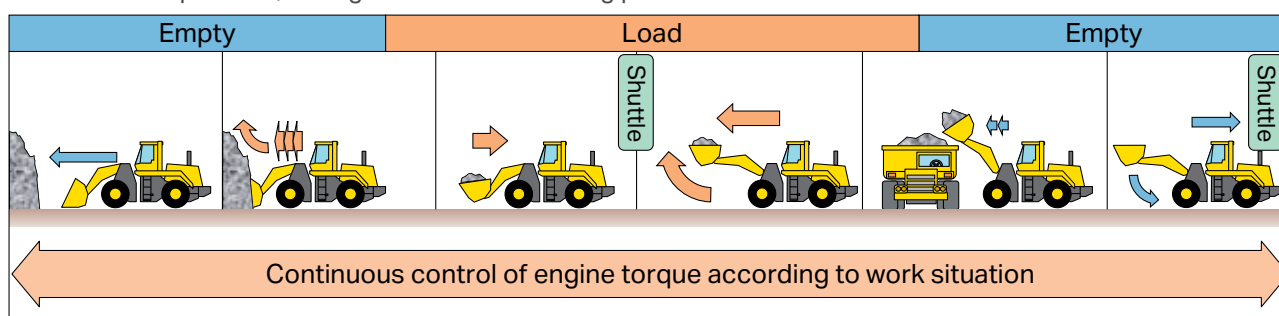


Automatic transmission

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.

Komatsu SmartLoader Logic

The WA700-8 is equipped with Komatsu SmartLoader Logic, an engine control system. This technology outputs the correct engine torque for each work phase. For example, engine torque needs are higher for digging in V-shape loading, but less when driving with an empty bucket. This system optimises the engine torque for all applications to minimise fuel consumption. Komatsu SmartLoader Logic functions automatically and doesn't interfere with operation, saving fuel while maintaining performance.



Closed-centre load sensing system (CLSS)

The variable displacement piston pump combined with the closed-centre load sensing system delivers hydraulic flow when it is needed. The variable displacement piston pump destrokes to minimise unnecessary hydraulic flow when not required, keeping hydraulic oil temperatures cool and reducing fuel consumption.

Improvement in fuel efficiency

The combination of new productivity enhancing features and new fuel saving features has resulted in an 8% improvement in fuel efficiency for the WA700-8 compared to the WA700-3.

Fuel efficiency(t/L)

Increased by 8%

* Compared with WA700-3

Tyre slip control system

Tyre slip control system prevents tyre slippage when digging. It reduces the traction force automatically when tyre slip on one of the front wheels is detected.



Large-capacity torque converter with standard lock-up

The Komatsu-designed power train has a large capacity torque converter with standard lock-up for optimum efficiency. The WA700-8 provides greater productivity in V-shape loading applications thanks to the large tractive effort. The lock-up function activates in 2nd and 3rd gears.

The lock-up torque converter is effective for load and carry applications and when moving from a waiting area to working area. The lock-up torque converter combined with Komatsu SmartLoader Logic results in low fuel consumption and high travel speeds in load and carry applications.

Large dumping clearance

The WA700-8 was designed with ample dumping clearance for dump truck matching. Also, increased rated load from previous model enables easy loading onto 60 ton class dump trucks in 4 passes.

WA700-8
& HD605-10



* Compared with WA700-3 +140 mm UP

Operator environment



New operator seat with control levers

A new air suspension seat provides enhanced support on rough roads and dampens machine vibrations, providing a more comfortable ride for the operator. An Electronic Pilot Control lever console and an advanced joystick steering lever are integrated in the seat and move with the seat. The angle of the armrest is fully adjustable for optimum operator comfort. 3-point seat belt, seat heater, and ventilation are standard equipment.



Variable traction control system

Machine rim pull in F1 can be set between 100% down to 20% using the variable traction control system knob. Setting the correct rim pull to match ground conditions reduces tyre slippage for increasing tyre life.



Advanced Joystick Steering System (AJSS)

The AJSS allows steering and directional selection to be controlled by the operator's left hand. With the feedback function, the machine steering angle matches the angle of the joystick. The operability of the lever is improved compared with the WA700-3.



Engine RPM set system with auto deceleration

Low idle engine PRM can be set using the switch located in the right console. Auto deceleration reduces the engine to 800 RPM automatically if no operator command is sensed after 4 seconds for additional fuel saving.



Pillar-less large cab with ROPS/FOPS

The new design cab with the spacious space is ROPS/ FOPS standard for operator's safety. The interior of the cab is improved to provide a quiet, low-vibration, dust-proof, and comfortable operating environment.

ROPS (ISO 3471) : Roll-over Protective Structure

FOPS (ISO 3449) : Falling Objects Protective Structure



Trainer seat

A trainer seat is standard equipment. It can be folded up when not in use.



LED room lamp and spot lamp

The LED lamps provides bright light to the operator.



Radio with Bluetooth® & AUX inputs

The AM/FM radio is equipped with Bluetooth® and aux inputs allowing the operator to connect to the speakers in the cab.



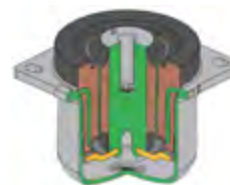
Non-glare bucket treatment

It prevents the dazzling light of the working lamps reflected on the bucket. It is useful when working in a dark environment.



Low noise design

The large cab is mounted with Komatsu's unique ROPS (ISO 3471)/FOPS (ISO 3449) viscous mounts. The low-noise engine, transmission and hydraulic pumps are mounted with rubber cushions, and the cab sealing is improved to provide a quiet, low-vibration, dust-proof, and comfortable operating environment.



Noise level at operator's ear

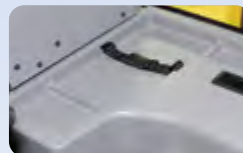
75 dB(A) (ISO 6396)

Noise level at dynamic (outside)

114 dB(A) (ISO 6395)

Standard equipment

Storage area



Hot or cool box



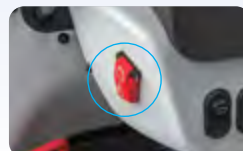
Automatic air conditioner



Side windshield wiper



Engine shutdown secondary switch



Parking brake switch

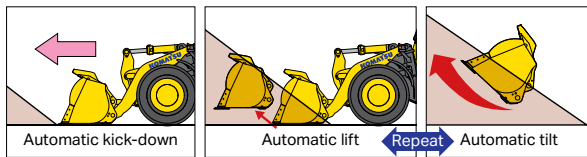


Operator environment

Automatic digging system

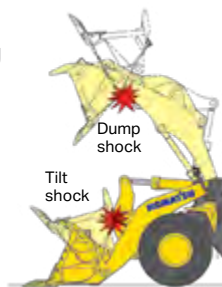
New automatic digging system actuates the bucket tilt and lifting operations by detecting the sensing pressure applied to the work equipment. This system can alleviate operator's fatigue and realise the ideal load capacity. This system can easily be activated or deactivated on the R.H. switch panel. Usable for both rock and loose materials. The operator can choose from two modes below.

- **Quick mode**
 - Short-time digging
 - Effective for quarry and soft material
- **Tough mode**
 - Deep digging
 - Effective for rock and hard material



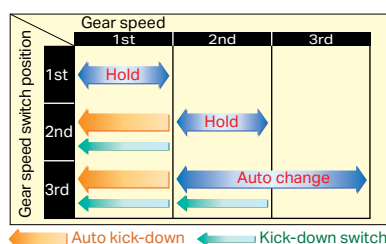
Work equipment shock reduction control

This function reduces the stroke-end-shock in a bucket tilt or dump operation by decreasing the tilting or dumping speed automatically just before hitting to the boom. This function enhances the durability of work equipment and reduces operator fatigue. The level of shock reduction effect can be selected from three levels.



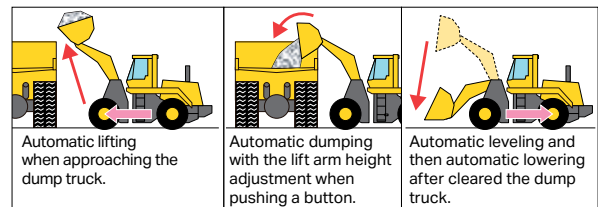
Auto kick-down control

Downshift and upshift between 1st and 2nd gear can be automatically done without pushing the kick-down switch. This results in easy operation, increased rim pull for better bucket penetration and reduced cycle times for higher productivity.



Semi-auto Approach & Dump System

Semi-auto Approach & Dump System enables easy loading operation on dump truck and helps reduce operator fatigue. The Semi-auto Approach System automatically raises and lowers the lift arms according to preset travel distance. Semi-auto dump system automates the bucket and the lift arms control during dump operation. The Automatic Digging, Semi-auto Approach System or Semi-auto Dump System can be activated or deactivated individually.



Remote bucket & boom positioner with shockless stop function

The stopping angle of the boom in both raising and lowering direction and the bucket stopping angle can be set from the cab. Once the position is set, the bucket is stopped smoothly at the set position.

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 approach when loading to dump trucks.
- Easy control of tyre slippage.
- Reducing of shocks in shifting from forward to reverse.



Electronically Controlled Suspension System

The Electronically Controlled Suspension System or ride control system uses an accumulator which absorbs some of the shock in the boom arm, giving the operator a much smoother ride. This reduces operator fatigue and reduces material spillage during load-and-carry operations.

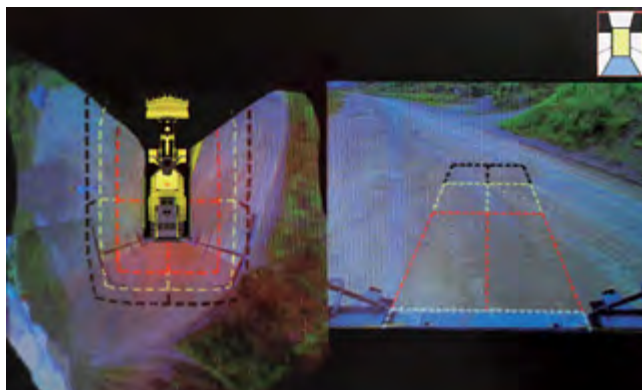
Safety

KomVision

The surroundings of the machine can be displayed on the dedicated monitor by using 6 cameras installed at the sides, rear and front of the machine. Operator can select and display the camera by pressing the switch on the right side switch panel.



The front camera image is useful for checking the space between the root of the boom and the ground. It is a safety feature and also used for tire cut prevention.



Rear view monitoring system

The operator can view the rear working area of the machine with a full colour monitor located on the right side of the cab. This monitor can be always on or only on when in reverse. Visual guidelines can be added for additional guidance.



LED lighting package

22 LED work lamps provide excellent visibility in various working conditions. LED lamps provide long bulb life and easy maintenance.



Ecology

Komatsu's U.S. EPA Tier 4 Final and E.U. Stage V emission regulations-compliant engine

Komatsu provides a powerful and economical U.S. EPA Tier 4 Final and E.U. Stage V compliant engine with latest emission control technologies and fuel saving features.

Technologies applied to new engine

- Komatsu Diesel Particulate Filter (KDPF)
- Variable Geometry Turbocharger (VGT) system
- Heavy-duty cooled Exhaust Gas Recirculation (EGR) system
- Komatsu Closed Crankcase Ventilation (KCCV)
- High Pressure Common Rail (HPCR) fuel injection system



Durability & reliability features

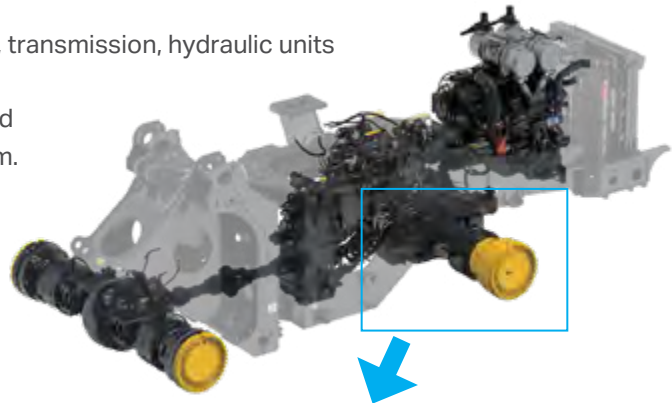
Komatsu components

Komatsu manufactures the engine, torque converter, transmission, hydraulic units and electric parts on this wheel loader.

Komatsu loaders are manufactured with an integrated production system under strict quality control system.

Common use of upper model components

Main components, such as the transmission and axles are common to upper models, ensuring excellent reliability and durability.



Divided type brake

- Easy maintenance

The separate structure of the brake and final drive improves ease of maintenance. Disassembly of the final drive is no longer necessary so it reduces maintenance time.

- Heat dissipation performance

The brake has a thicker brake plate and more cooling oil around the brake than a conventional brake. Combined with ingenious oil circulation inside the axle, the brake has better heat dissipation performance. This improves brake durability.

Long-life frame and loader linkage

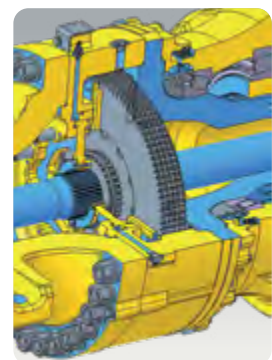
The front and rear frames and the loader linkage of the WA700-8 have a 33% longer life compared to the WA700-3. The frames and loader linkage are designed to accommodate actual working loads, and simulated computer testing proves their strength.



Adjustment-free braking system

Wet multi-disc service brakes and fully hydraulic braking system mean lower maintenance costs and higher reliability. Wet multi-disc brakes are fully sealed, helping keep contaminants out, reducing wear and maintenance. Brakes are adjustment-free, meaning even lower maintenance. Reliability is designed into the braking system by the use of two independent hydraulic circuits. This provides hydraulic backup should one of the circuits fail.

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



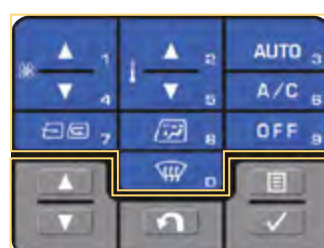
ICT

High resolution 7-inch colour LCD monitor

The machine monitor displays various machine information and allows for various settings of the machine. The monitor is a 7-inch colour LCD and displays maintenance information, operation record, ECO guidance record, etc. The switch panel is used to select various screens and the air conditioner control screen. By using the switch panel, you can display various user menus on the LCD screen and adjust the machine settings.

Machine monitor

- | | |
|---------------------------|---|
| 1 LCD unit | 8 Engine coolant temperature gauge |
| 2 LED unit | 9 Hydraulic oil temperature gauge |
| 3 Engine tachometer | 10 Torque converter oil temperature gauge |
| 4 Speedometer | 11 Fuel gauge |
| 5 ECO gauge | 12 Message pilot lamp |
| 6 Air conditioner display | 13 Pilot lamps |
| 7 Shift indicator | |

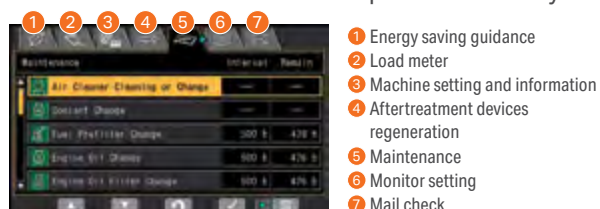


Switch panel

- | |
|--|
| 1 Air conditioner switches / Numeral key pad |
| 2 Function switches |

Visual user menu

Pressing the menu switch on the switch panel displays the user menu screen. The menus are grouped for each function, and use easy-to-understand icons which enable the machine to be operated intuitively.



Machine monitor with troubleshooting function to minimise downtime

Various meters, gauges and warning functions are centrally arranged on the machine monitor. The monitor simplifies start-up inspection and promptly warns the operator with a lamp and buzzer if any abnormalities should occur.



Energy saving operation eco guidance

In order to support optimum operation, the following 5 guidance messages are displayed for fuel saving operation.

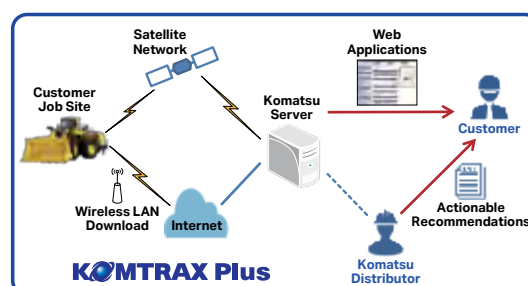
- 1) Excessive engine idling event
- 2) Hydraulic relief pressure event
- 3) Dragging of brake event
- 4) Excessive stepping on accelerator event
- 5) Excessive digging event



The ECO guidance menu enables the operator to check the operation record, fuel consumption history and ECO guidance record by pushing the button. The records can be used to reduce the overall fuel consumption.

KOMTRAX Plus

Assists customer's equipment management and contributes to fuel cost cutting



Maintenance features



Side-opening engine hood doors

The wide access areas of both the left and right sides of the engine and standard LED bay lamps make daily maintenance easy. Large steps are provided on each side of the frame for easy access.



Swing-out type cooling fan and wide core radiator

The cooling fan swings out for cleaning. The radiator with wide fin pitch reduces dust clogging.



Reversing fan

The engine cooling fan is driven hydraulically and can be reversed through the monitor.



Battery disconnect switch

The battery disconnect switch is located near the left side battery box. This can be used to disconnect power when performing service work on the machine.



Machine lock out system

The machine lock out switch is located near the right side battery box. When activating the switch, traveling, steering and work equipment actuation can be locked from outside.

Walk-through around the cab

Safety during cleaning has been improved by installing a walk-through around the cab.



Engine compartment

The engine compartment is newly designed taking into consideration the optimal location of maintenance related items such as filters, oil level gauges, oil filler, after treatment devices for easy access during maintenance work.



Rear full fenders

The rear access steps with handrails that double as full fenders are used on the left and right sides for easy access to the cab. The width, depth, spacing, and angle of the steps are optimally designed based on ergonomics to ensure safety when ascending and descending. In addition, the standard step light allows you to safely go up and down at night.



Fuel quick charge system

A port for fuel quick charge system is prepared next to the fuel filler located in the rear left side of the loader, it is possible to refuel from the ground.



Modular radiator core system

The modular radiator core can be removed without removing the entire radiator assembly.



Service centre

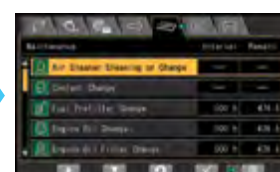
Ports for draining and refilling the oils and coolant and collecting oil samples are centrally located at the service centre. This enables quick service from the ground.



Maintenance time caution lamp display

It shows the remaining time to next maintenance if it becomes less than 30 hours*. With pushing the menu switch, the screen transitions to "Maintenance" menu directly.

* The setting can be changed within the range between 10 and 200 hours.



Maintenance screen

Specifications

Engine

Model	Komatsu SAA6D170E-7
Type	Water-cooled, 4-cycle
Aspiration	Variable geometry turbocharged, and air to air aftercooled, cooled EGR
No. of cylinders	6
Bore	170 mm
Stroke	170 mm
Piston displacement	23.15 L
Governor	All-speed, electronic
Engine power	
SAE J1995	Gross 578 kW 775 HP/2000 min ⁻¹
ISO 14396	578 kW 775HP/2000 min ⁻¹
ISO 9249 / SAE J1349	Net 577 kW 773 HP/2000 min ⁻¹
Rated rpm	2000 min ⁻¹
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, plus dust indicator

* U.S. EPA Tier 4 Final and EU Stage V emissions certified.

Transmission

Transmission				
Type		Automatic powershift transmission		
Torque converter		3-elements, 1-stage, 1-phase, with lock-up clutch		
Measured with 45/65R39				
		1st	2nd	3rd
Lock-up OFF	Forward	7.6 km/h	13.5 km/h	23.2 km/h
	Reverse	7.9 km/h	13.5 km/h	24.0 km/h
Lock-up ON	Forward	-	13.5 km/h	25.9 km/h
	Reverse	-	13.5 km/h	26.9 km/h

Axles and final drives

Drive system	Four-wheel drive
Front	Fixed, full-floating
Rear	Centre-pin support, full-floating
Reduction gear	Spiral bevel gear
Differential gear	Conventional type
Final drive	Planetary gear, single reduction

Brakes

Service brakes	Hydraulically actuated, wet multiple-disc brakes actuate on four wheels
Parking brake	Wet multiple-disc brake
Secondary brake	One of dual service brake circuits is commonly used.

Steering system

Type	Articulated type, full-hydraulic power steering
Steering angle	40° each direction
Minimum turning radius at the centre of outside tire	9050 mm

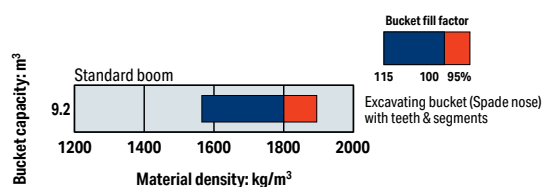
Hydraulic system

Steering system:	
Hydraulic pump	Piston pump
Capacity	2 x 157.5 L/min at rated rpm
Relief valve setting	31.3 MPa 320 kgf/cm ²
Hydraulic cylinders:	
Type	Double-acting, piston type
Number of cylinders	2
Bore x stroke	150 mm x 587 mm
Loader control:	
Hydraulic pump	Piston pump
Capacity	4 x 224 L/min at rated rpm
Relief valve setting	34.3 MPa 350 kgf/cm ²
Hydraulic cylinders:	
Type	Double-acting, piston type
Number of cylinders – bore x stroke:	
Lift cylinder	2 – 225 mm x 1360 mm
Bucket cylinder	1 – 280 mm x 824 mm
Control valve	Spool type
Control positions:	
Boom	Raise, hold, lower, and float
Bucket	Tilt-back, hold, and dump
Hydraulic cycle time	
Raise (Rated load in bucket)	7.4 s
Dump (Empty)	2.8 s
Lower (Empty)	4.4 s

Service refill capacities

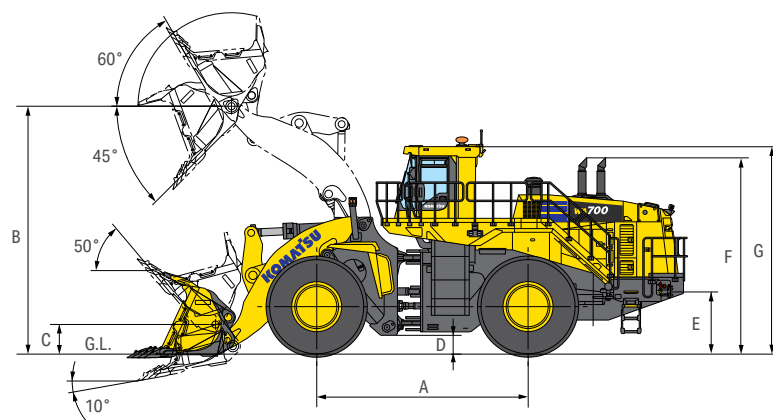
Cooling system	221 L
Fuel tank	1420 L
Engine	86 L
Hydraulic system	833 L
Axle front	340 L
rear	340 L
Torque converter and transmission	230 L

Bucket selection guide



Dimensions

Measured with 45/65 R39 (L-5) tires, ROPS (ISO 3471)/FOPS (ISO 3449) cab



Standard boom

Overall width without bucket	3250 mm
Width over tires	4380 mm
A Wheelbase	5340 mm
B Hinge pin height, max. height	6265 mm
C Hinge pin height, carry position	750 mm
D Ground clearance	475 mm
E Hitch height	1570 mm
F Overall height, top of the stack	4960 mm
G Overall height, ROPS (ISO 3471) cab	5240 mm

Standard boom Excavating bucket Spade nose Teeth & segments

Bucket capacity:	Heaped	9.2 m³	
	Struck	8.0 m³	
Bucket width	4710 mm		
Bucket weight	16560 kg		
Dumping clearance, cutting edge	4540 mm		
Dumping clearance, teeth	4180 mm		
Reach, cutting edge	2080 mm		
Reach, teeth	2325 mm		
Operating height (Fully raised)	8625 mm		
Overall length	14130 mm		
Minimum turning radius (Bucket at carry, outside corner of bucket)	Full lever	Outside	10930 mm
		Centre of outside tyre	9460 mm
	Maximum articulate	Outside	10550 mm
		Centre of outside tyre	9050 mm
Digging depth (At the end of tooth)	0 °	240 mm	
	10 °	670 mm	
Static tipping load	Straight	68400 kg	
	40 ° full turn	59100 kg	
Breakout force	Boom	501 kN (51100 kgf)	
	Bucket	615 kN (62700 kgf)	
Operating weight	97100 kg		

All dimensions, weights, and performance values based on ISO 7131 and 7546 standards.

Static tipping load, operating weight and overall length shown include lubricant, coolant, full fuel tank, ROPS (ISO 3471) cab and operator. Machine stability and operating weight affected by counterweight, tyre size, and other attachments.

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

Standard and optional equipment

Engine

Air cleaner, Dry type with double elements, plus dust indicator	●
Alternator, 24 V/140 A	●
Bio diesel fuel, B20	●
Engine, Komatsu SAA6D170E-7	●
KDPF	●
Maintenance free batteries, Large capacity, 4 x 12 V/160 Ah	●
Starting motor, 2 x 24 V/11 kW	●

Lighting system

Access stair lamp, LH side, LED	●
Directional signal	●
Engine bay lamp, LED	●
Hazard lamps	●
Headlamps, LED	●
Front work lamps, LED	●
Rear corner additional work lamp, LED	●
Rear work lamps, LED	●
Side work lamps, LED	●
Stop and tail lamps and turn signal lamps, LED	●
Fog lamp, LED	○

Cab

2 x DC12V electrical outlets	●
Advanced joystick steering system	●
Auto air conditioner	●
Ashtray	●
Cigarette lighter	●
Color multi-monitor	●
Cup holder	●
Electronic Pilot Control fingertip control	●
Floor mat	●
Front wiper (with washer and intermittent)	●
Operator seat with 3-point seat belt, ventilation, air suspension type	●
Radio: AM/FM with AUX terminal, USB port for charging and Bluetooth®	●
Rear defroster (electric)	●
Rear wiper (with washer and intermittent)	●
Room mirror	●
Room lamps, LED	●
ROPS(ISO 3471)/FOPS (ISO 3449)	●
Space for lunch box	●
Spot lamp, LED	●
Steel cab included front, rear and side wiper with windshield washer	●
Sun shades (front and rear), retractable type	●
Sun visor (front)	●
Trainer seat with 2-point seat belt	●
Trainer seat with 3-point seat belt	○

Tire

45/65R39(L-5) without tire	●
45/65R39(L-5) with tubeless tire	○

Safety equipment

Back-up alarm	●
Beacon lamp	●
Emergency stop switch	●
Engine shutdown secondary switch	●
Hand rails for platform	●
Horn, electric	●
KomVision system (radar less)	●
Machine lock out system	●
Parking brake, electric	●
Rear view monitoring system	●
Secondary brake	●
Secondary steering (ISO 5010)	●
Service brakes, wet disc type	●

Others

2-way engine power mode	●
3rd gear prohibition and speed limit control	●
Auto greasing system	●
Automatic digging system	●
Automatic shift transmission	●
Battery disconnect switch	●
Boom positioner with kick-out	●
Brake cooling system	●
Brake oil thermometer display	●
Bucket positioner	●
Circuit breaker	●
ECO guidance, ECO gauge	●
Electronically Controlled Suspension System	●
Engine RPM set system with auto deceleration	●
Engine starter disconnect switch	●
Fire extinguisher stand provision	●
Front fenders	●
Fuel pre-filter with water separator	●
Heated mirrors (for cold district)	●
Hydraulic-driven fan with reverse rotation	●
Inline filters, steering and hydraulic	●
Komatsu auto idle shutdown	●
Komatsu SmartLoader Logic	●
KOMTRAX Plus	●
KOWA sampling port	●
Lift cylinders and bucket cylinder	●
Load meter system	●
Modulation clutch	●
Modular radiator core	●
Ordinary spare parts	●
Power train guard	●
Quick coupling for fuel tank	●
Radiator mask, swing out	●
Rear access stair with handrail	●
Semi-auto approach & dump system	●
Service centre, engine, transmission, break oil, and coolant	●
Starter receptacle	●
Sweeper wing	●
Tire slip control	●
Wall digging prevention control system	●
Work equipment shock reduction control	●
Tire options, radial	○

Further equipment on request

● Standard equipment

○ Optional equipment

For more information:

Australia - Ph: 1300 566 287 | **Web:** komatsu.com.au

New Zealand - Ph: 0800 566 2878 | **Web:** komatsu.co.nz

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