

# KOMATSU

## WA700-8

PRELIMINARY



Wheel loader

**Engine power**  
578 kW / 775 HP @ 2000 rpm

**Operating weight**  
97100 kg

**Bucket capacity**  
8.7 - 10.3 m<sup>3</sup>

## Powerful and environmentally friendly

- EU Stage V engine
- Komatsu SmartLoader Logic
- Large-capacity torque converter with standard lock-up
- Variable traction control
- Engine RPM set system with auto deceleration
- Adjustable auto idle shutdown
- Automatic transmission with Electronic
- Controlled Modulation Valve
- Closed-center load sensing system (CLSS)

## Maximised efficiency

- Redesigned Komatsu bucket
- Greater lifting capacity (+ 6%)
- Automatic digging system
- Semi-auto dump truck approach & dump system
- Tyre slip control system



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Bucket capacity  
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# Exceptional productivity and operator environment

## Perfect match with 60 t dump trucks

### Safety features

- KomVision surround view system
- Emergency engine stop switches
- Machine lock-out switch
- LED lighting system
- Catwalks around the cab

### First-class comfort

- Air-suspended, heated and ventilated operator seat with integrated EPC and Advanced Joystick Steering System lever consoles
- Multi-function monitor with high resolution 7" LCD color display
- Large dumping clearance
- Eco guidance

### Reliability & maintenance features

- High-rigidity frames and loader linkage
- Swing-out reversible fan
- Modular wide-core radiator
- Service center
- Long-life Komatsu Diesel Particulate Filter

### Komtrax Plus

- Komatsu Wireless Monitoring System
- Increased operational data and fuel savings



A maintenance program  
for Komatsu customers

## **Komatsu fuel-saving technology**

Fuel efficiency on the WA700-8 is now up to 8% higher, thanks to the new Komatsu EU Stage V engine with optimised engine power control, a highly efficient power train and a load sensing hydraulic system with variable displacement piston pumps that minimise loss.

## **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 a working area. Combining the lock-up torque converter with Komatsu SmartLoader Logic results in low fuel consumption and high travel speeds in load and carry applications.

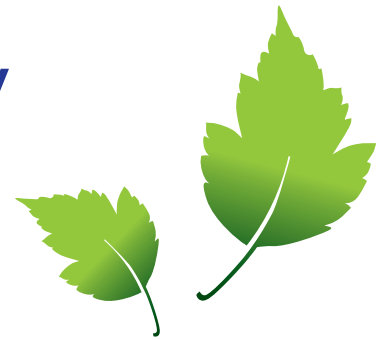
## **Komatsu SmartLoader Logic**

The WA700-8 features Komatsu SmartLoader Logic, a fully automatic engine control system. Without interfering with normal operations, this technology acquires data from various sensors in the vehicle and delivers optimal engine torque for each work phase. It limits torque during less demanding operations and reduces fuel usage without decreasing production.

## Powerful and environmentally friendly

### Komatsu EU Stage V

The Komatsu EU Stage V engine is productive, dependable and efficient. With ultra-low emissions, it provides a lower environmental impact and a superior performance to help reduce operating costs and lets the operator work in complete peace of mind.



### Heavy-duty aftertreatment

The Komatsu Diesel Particulate filters (KDPF) captures more than 90% of Particulate Matter (PM). Special oxidation catalyst and extra fuel injection in the exhaust stream can decompose accumulated soot in the DPF filter by either active or passive regeneration. This system does not interrupt normal operation or require additional action from the driver.



#### High-Pressure Common Rail (HPCR)

To achieve complete fuel burn and lower exhaust emissions, the heavy-duty High-Pressure Common Rail fuel injection system is computer controlled to deliver a precise quantity of pressurised fuel into the redesigned engine combustion chamber by multiple injections.

#### Exhaust Gas Recirculation (EGR)

Cooled EGR is a technology well-proven in current Komatsu engines. The increased capacity of the EGR cooler now ensures very low NOx emissions and a better engine performance.

#### Komatsu Closed Crankcase Ventilation (KCCV)

Crankcase emissions (blow-by gas) are passed through a CCV filter. The oil mist trapped in the filter is returned back to the crankcase while the filtered gas is returned to the air intake.

#### Variable Geometry Turbo (VGT)

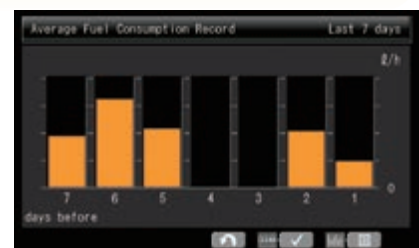
The VGT provides optimal airflow to the engine combustion chamber under all speed and load conditions. Exhaust gas is cleaner, fuel economy is improved while machine power and performance are maintained.



Eco-gauge and an Eco guidance with active recommendations help maximising fuel savings



Adjustable auto idle shutdown automatically turns off the engine after it idles for a set period of time



Fuel consumption history

## Maximised efficiency



### 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.

### Precision control

Komatsu's CLSS hydraulics enables extremely precise control of the work equipment, and ensures that the bucket, boom and hydraulically driven attachments can all move smoothly at the same time. The WA700-8 also features variable-displacement pumps on both the hydraulic and steering systems. These pumps deliver the exact amount of oil required, dramatically improving fuel efficiency.

### Large dumping clearance

The WA700-8 was designed with ample dumping clearance for perfect dump truck matching. The Komatsu HD605-10 (64 metric tonnes maximum payload) can be loaded in just 4 passes.



### Semi-auto dump truck approach & dump system

Boom lift and bucket dumping operation can be automatic when approaching a dump truck. By using it together with the Automatic Digging System, loading operation on the dump truck is facilitated and the operator's fatigue is reduced.

### Variable traction control system

In limited traction situations, such as on sandy or muddy grounds, the operator can reduce slippage by activating the variable traction control system. Optimum rim pull is adjusted with a control dial from 100% to 20%.

### 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.



### New automatic digging system

The new automatic digging system actuates the bucket tilt and lifting operations by detecting the sensing pressure applied to the work equipment. This system greatly reduces operator's fatigue and ensures an ideal loading capacity. The operator can choose between quick and tough mode.

### Tyre slip control system

This system is effective for extending the service life of tyres. It senses tyre slip with a speed sensor, then controls the torque converter with the modulated clutch.

### 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.

## Safety features



### Emergency engine stop switches

The emergency stop switches are located in the rear bumper at ground level so that they can be accessed easily in case of emergency.



### Optimal jobsite safety

Safety features on the Komatsu WA700-8 comply with the latest industry standards and work in synergy to minimise risks to people in and around the machine. The greatly improved visibility in the newly designed pillar-less cab increases jobsite safety. The rear access steps, wide catwalks and large handrails allow safe and easy access to the cab and to maintenance check points.

### LED lighting package

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

### Machine lock-out switch

A machine lock-out switch is located near the right side battery box. When activating the switch, traveling, steering and work equipment actuation are locked.

### KomVision surround view system

With 6 high definition networked cameras fitted on the machine, KomVision provides a crystal clear, real-time bird's eye view of the immediate surroundings on the widescreen cab monitor. The operator can quickly and easily check the machine's vicinity prior to making any movement, and focus on the work at hand even in low light conditions.

### Rear view monitoring system

The operator can view the rear working area of the machine with a full color 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.



## First-class comfort

### Quiet and comfortable cab

Operator comfort is essential for safe and productive work. The newly designed cab on the WA700-8 is quiet and comfortable, an ideal environment to concentrate on the job. The high capacity climate control system pressurises the cab to keep dust out. Furthermore the cab is mounted with Komatsu's unique ROPS (ISO 3471) / FOPS (ISO 3449) viscous mounts and the low-noise engine, transmission and hydraulic pumps are mounted with rubber cushions.

### Perfect operator convenience

In addition to the standard radio, the WA700-8 has Bluetooth® and an auxiliary input for connecting external devices and play music through the cab speakers. Two 12-volt power ports are also incorporated in the cab. The LED room lamp and spot lamp provide bright light for the operator. On uneven grounds the electronically controlled suspension system (ECSS) reduces shocks and increases productivity and comfort.





## State-of-the-art controls



### Operator seat with control levers

An 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.

### "By Wire" operating

The work equipment's Electronic Pilot Control (EPC) lever console is integrated with the seat and can be easily adjusted to suit any operator. The short levers are fingertip controlled for precise and fatigue-free operating, with a no-vibration modulating function for slowing and stopping a lowering bucket. The upper and lower boom cut-out position can be pre-set with a switch.

### Advanced joystick steering system

The advanced "feedback" steering system allows both steering and directional selection to be controlled by wrist and finger. With the feedback function, the machine steering angle is exactly the same angle as the lever tilt angle. The operability of the lever is greatly improved thanks to the new ergonomic design with extra large directional toggle switch.

### Engine RPM set system with auto deceleration

Low idle engine speed 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.

### 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. It enables smooth speed reduction when approaching dump trucks, an easy control of tyre slippage and reduces shocks when shifting from forward to reverse.

### 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.



Storage area



Hot and cool box



The standard trainer seat can be folded up when not in use.



### Lower operating costs

Komatsu ICT contributes to the reduction of operating costs by assisting to comfortably and efficiently manage operations. It raises the level of customer satisfaction and the competitive edge of our products.

### High resolution 7-inch color LCD monitor

The machine monitor displays various machine information and allows for various settings of the machine. The monitor is a 7-inch color 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.

### Eco guidance

The monitor panel displays instant guidance messages to help promote energy saving, and the Eco-gauge indicates the actual fuel consumption: keep the Eco-gauge in the green zone for better fuel efficiency. To further improve savings, logs can be consulted for operations, Eco guidance and fuel consumption.



Information at a glance: basic dashboard LCD monitor



A multifunction monitor displays and controls a wealth of operational and maintenance information



Eco guidance supports energy saving in real time

## Information & communication technology



### What

- Komtrax is Komatsu's remote equipment monitoring and management system
- Komtrax continuously monitors and records machine health and operational data
- Information such as fuel consumption, utilization, and a detailed history aids in making repair or replacement decisions

### When

- Know when your machines are running or idling and make decisions that will improve your fleet utilization
- Detailed movement records ensure you know when and where your equipment is moved
- Up to date records allow you to know when maintenance was done and help you plan for future maintenance needs

### Where

- Komtrax data can be accessed virtually anywhere through your computer, the web or your smart phone
- Automatic alerts keep fleet managers up to date on the latest machine notifications

### Why

- Knowledge is power - make informed decisions to manage your fleet better
- Knowing your idle time and fuel consumption will help maximize your machine efficiency
- Take control of your equipment - any time, anywhere

### Who

- Komtrax is standard equipment on all Komatsu construction products

## KOMTRAX Plus

### Equipment management support

Komtrax Plus enables expanded monitoring of the fleet via satellite and wireless LAN. Users can analyze "machine health" and performance from a remote location, on a near-real time basis. This includes component condition and trend data. By making this critical information readily accessible, Komtrax Plus is an effective tool in maximizing productivity and lowering operating cost.



## Easy maintenance



### Easy access to service points

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. This is also supported by large steps and LED lights.

### Battery disconnect switch

The lockable 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.



### Modular design wide core radiator with reversible fan

The wide core modular radiator prevents clogging even in a dusty work environment. To minimise manual cleaning, a reversible fan blows the dust out. The radiator core can be removed without the entire assembly, keeping repair costs down.

### Komatsu Care

Komatsu Care is a maintenance program that comes as standard with your new Komatsu machine. It covers factory-scheduled maintenance, performed with Komatsu Genuine parts by Komatsu-trained technicians. It also offers extended coverage of the Komatsu Diesel Particulate Filter (KDPF). Please contact your local Komatsu distributor for terms and conditions.

### Fuel quick charge system

The refueling port on the left side can be accessed from the ground level.



### Service center

Replacement and supply of oil, coolant and grease can be done from the ground. Maintenance time can be remarkably shortened.



The multifunction monitor panel provides the operator with maintenance and service information, if oil filters need replacing or any abnormality occurs. In addition, it supplies Komatsu mechanics with detailed information, with no need for external service tools.



Basic maintenance screen



Cleaning the radiator fan in reverse mode



## Quality you can rely on

### Designed and built by Komatsu

The engine, hydraulics, power train, front and rear axles and even the bolts are original Komatsu components. All these components are subject to the highest quality standards right down to the smallest screw.

### High-rigidity frames and loader linkage

The front and rear frames and the loader linkage have more torsional rigidity to provide increased resistance to stress.

### Walk-through around the cab

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

### Wet multi-disc service brake

The multi-disc service brake is encapsulated and runs in an oil bath. That means no air system to bleed, or condensation water in the system that can lead to contamination, corrosion or freezing. The brake stays clean and operates at low temperature for increased service intervals and a long lifetime. The braking system uses two independent hydraulic circuits, for added reliability. The brakes are adjustment-free, meaning even lower maintenance. This provides hydraulic backup should one of the circuits fail.

### Brake cooling system

The redesigned brake cooling system integrated with the radiator is standard equipment. Durability and heat dissipation has been improved.

### Sweeper wings (large size tyre guard)

Sweeper wings (large size tyre guard) provided on both sides of the bucket prevent damage of tyre cut due to rock and prolong tyre life.

### Divide type brake

The sun gear brakes have been separated from the final drives, improving maintainability.

# Specifications

## Engine

Model	Komatsu SAA6D170E-7
Type	Common rail direct injection, water-cooled, emissionised, turbocharged, after-cooled diesel
Engine power	
at rated engine speed	2000 rpm
ISO 14396	578 kW / 775 HP
ISO 9249 (net engine power)	577 kW / 773 HP
No. of cylinders	6
Bore × stroke	170 × 170 mm
Displacement	23.15 l
Fan drive type	Hydraulic
Filter	Full-flow type
Air filter type	Dry-air filter with automatic dust emission and preliminary purification including a dust display
Fuel	Diesel fuel, conforming to EN590 Class 2/ Grade D. Paraffinic fuel capability (HVO, GTL, BTL), conforming to EN 15940:2016

## Transmission

Type	Automatic powershift transmission
Torque converter	3-element, 1-stage, 1-phase, with lock-up clutch

## Speeds in km/h (with 45/65 R39 tyres)

Gear		1.	2.	3.
Lock-up OFF	Forward	7.6	13.5	23.2
	Reverse	7.9	13.5	24.0
Lock-up ON	Forward		13.5	25.9
	Reverse		13.5	26.9

## Chassis and tyres

System	4-wheel drive
Front axle	Fixed, full-floating
Rear axle	Center-pin support, full-floating
Reduction gear	Spiral bevel gear
Differential gear	Conventional type
Final drive	Planetary gear, single reduction
Tyres	45/65 R39

## Brakes

Operating brakes	Hydraulically actuated, wet multi-disc brakes on all wheels
Parking brake	Wet multi-disc
Emergency brake	One of the dual service brake circuits is commonly used

## Hydraulic system

Type	Komatsu CLSS (Closed Centre Load Sensing System)
Hydraulic pump	Piston pump
Capacity	4 × 224 l/min
Relief valve setting	350 kg/cm <sup>2</sup>
Hydraulic cylinders	
Type	Double-acting, piston type
Number of cylinders – bore × stroke	
Lift cylinder	2 – 225 mm × 1360 mm
Bucket cylinder	1 – 280 mm × 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

## Steering system

System	Articulated type, full-hydraulic power steering
Steering angle to either side	40°
Steering pump	Piston pump
Working pressure	320 kg/cm <sup>2</sup>
Pumping capacity	2 × 157.5 l/min
No. of steering cylinders	2
Type	Double-action
Bore diameter × stroke	150 mm × 587 mm
Smallest turn (outer edge of the tyre)	9050 mm

## Service refill capacities

Fuel tank	1420 l
Engine oil	86 l
Hydraulic system	833 l
Cooling system	221 l
Front axle	340 l
Rear axle	340 l
Torque converter and transmission	230 l

## Environment

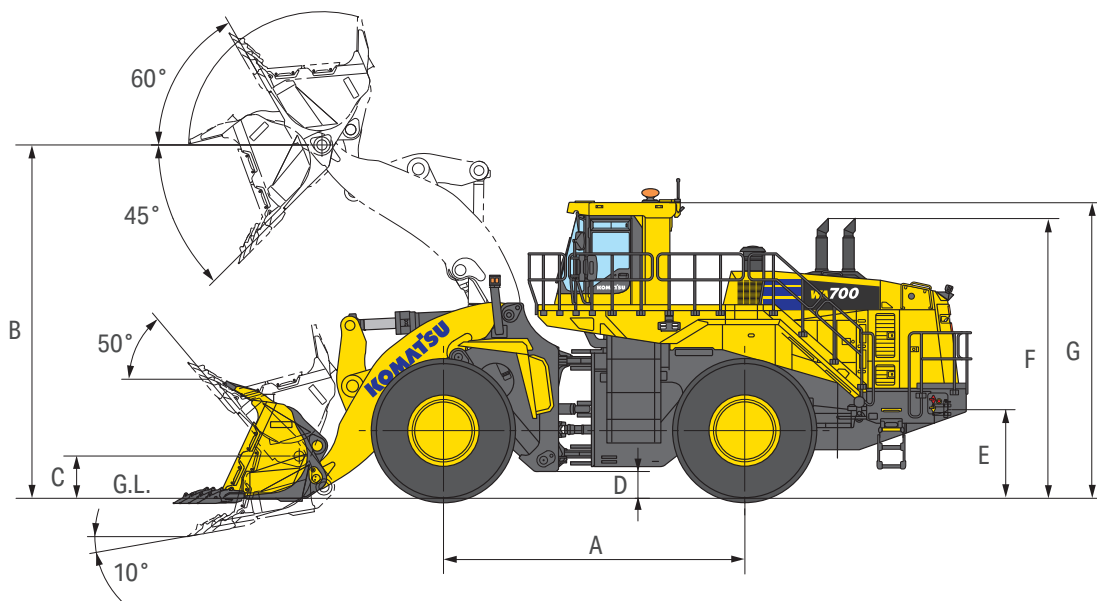
Engine emissions	Fully complies with EU Stage V exhaust emission regulations
Noise levels	
LwA external	114 dB(A) (2000/14/EC Stage II)
LpA operator ear	75 dB(A) (ISO 6396 dynamic test)
Vibration levels (EN 12096:1997)	
Hand/arm	$\leq 2.5 \text{ m/s}^2$ (uncertainty K = 0.32 $\text{m/s}^2$ )
Body	$\leq 0.5 \text{ m/s}^2$ (uncertainty K = 0.26 $\text{m/s}^2$ )
Contains fluorinated greenhouse gas HFC-134a (GWP 1430). Quantity of gas 1.1 kg, CO <sub>2</sub> equivalent 1.57 t.	

## Dimensions and performance figures

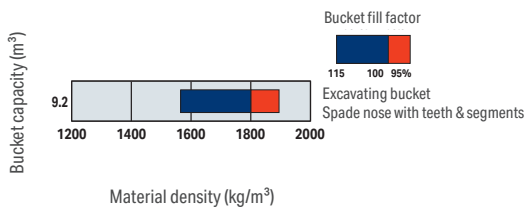
### Dimensions

Tread	3250 mm
Width over tyres	4380 mm
A Wheel base	5340 mm
B Hinge pin 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 cab	5240 mm

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



### Bucket selection guide





**Measurements and working specifications (standard boom)**

**Spade nose  
Teeth & segments**

<b>Bucket type</b>		<b>Excavating bucket</b>	
Bucket capacity	Heaped		9.2 m <sup>3</sup>
	Struck		8.0 m <sup>3</sup>
Bucket width			4710 mm
Bucket weight			8900 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
		Center of outside tyre	9460 mm
	Maximum articulate	Outside	10550 mm
		Center 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.

## Standard and optional equipment

### Engine

Komatsu SAA6D170E-7 turbocharged common rail direct injection diesel engine	●
EU Stage V compliant	●
Komatsu SmartLoader Logic	●
Adjustable auto idle shutdown	●
Engine RPM set system with auto deceleration	●
Fuel filter with water separator	●
Air cleaner, dry type with double elements, with dust indicator	●
2-way engine power mode	●
3rd gear prohibition and speed limit control	●
Alternator 140 A / 24 V	●
Starter motor 2 × 11 kW / 24 V	●
Batteries 4 × 12 V / 160 Ah	●

### Transmission and brakes

Automatic shift transmission	●
Large-capacity torque converter	●
Variable traction control system	●
Auto kick-down	●
Power train underguard	●
Parking brake, electric	●
Emergency brake system	●
Service brakes, wet disc type	●
Brake cooling system	●
Brake oil thermometer display	●

### Hydraulic system

EPC fingertip control, two levers, including:	
- Bucket stop modulation	●
- Boom stop pre-setting	
Automatic digging system	●
Semi-auto dump truck approach & dump system	●
Work equipment shock reduction control	●
Wall digging protection control	●
Boom positioner with kick-out	●
Bucket positioner	●

### Cabin

ROPS/FOPS frame according to ISO 3471/3449	●
Advanced joystick steering system	●
Heated and ventilated, high back air-suspended seats with pneumatically adjustable lumbar support, console mounted height adjustable arm rests and 3 point seat belt	●
Trainer seat with 2-point seat belt	●
Automatic climate control system	●
Multifunction colour monitor with Equipment Management and Monitoring System (EMMS) and efficiency guidance	●
Eco guidance and Eco gauge	●
Payload meter	●
AM/FM with auxiliary input, USB port for charging and Bluetooth®	●
Hot and cool box	●
Heated mirrors	●
Front and rear window wipers with washer and intermittent	●
Side window wipers	●
Rear defroster (electric)	●
2 × 12 V power supply	●
Sun visor (front) and sun shades (front and rear), retractable type	●
Trainer seat with 3-point seat belt	○

### Service and maintenance

Hydrostat-driven radiator fan with reversing function	●
Modular design wide core radiator with swing-out type lattice mask	●
In-line filters, steering and hydraulic system	●
Fuel pre-filter with water separator	●
Komtrax Plus – Komatsu wireless monitoring system	●
Komatsu Care – a maintenance program for Komatsu customers	●
Fuel fast fill	●
LED engine room lamp	●
Automatic greasing system	●
Service center, engine, transmission, break oil, and coolant	●
KOWA sampling port	●
Quick coupling for fuel tank	●

### Chassis and tyres

Full floating axles	●
Front fenders	●
Full rear fenders	●
45/65R39 (L-5) tyres	○

## Lighting system

Full LED 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	○

## Safety equipment

Emergency steering system	●
KomVision surround view system	●
Rear-view camera system and monitor	●
Back-up alarm	●
Emergency engine stop switch	●
Secondary engine shutdown switch	●
Engine starter disconnect switch	●
Electric horn	●
Battery main switch	●
Handrails on left/right	●
Walk-through around the cab	●
Rear access stairs with handrail	●
Rear-view mirrors	●
Machine lock-out switch	●
Beacon light	●
Circuit breaker	●
Sweeper wings	●
Tyre slip control	●
Fire extinguisher stand provision	●



A wide range of buckets and attachments is available. Your Komatsu distributor is ready to assist you with the selection of suitable options.

## Other equipment

Electronically controlled suspension system (ECSS)	●
Lift cylinders and bucket cylinders	●
Modular clutch	●
Ordinary spare parts	●
Starter receptacle	●

Further equipment on request

- standard equipment
- optional equipment

This specification sheet may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require. Materials and specifications are subject to change without notice.

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**KOMATSU**

[komatsu.eu](https://www.komatsu.eu)

