

**ZW-6 series**

**HITACHI**

**Reliable solutions**

**ZW120**



## **WHEEL LOADER**

**Model code :** ZW120-6

**Engine rated power :** 74 kW / 100 hp

**Operating weight :** 8 420 – 8 960 kg

**Bucket ISO heaped :** 1.3 – 1.8 m<sup>3</sup>

# ZW120-6. NO COMPROMISE

Offering exceptional levels of performance without compromising on efficiency, Hitachi ZW-6 wheel loaders are designed to satisfy the requirements of the construction industry.

Designed to be reliable, durable and versatile for a variety of job sites, and to operate with low levels of fuel consumption, they incorporate the high-quality engineering for which Hitachi is renowned.



6. FIRST FOR RELIABILITY



8. DEDICATED TO DURABILITY



10. INCREDIBLE VERSATILITY





**12. INDUSTRY-LEADING QUALITY**

**14. UNIQUE TECHNOLOGY**



# DEMAND PERFECTION

Designed and built with an emphasis on the environment, operator comfort and safety, the ZW-6 wheel loaders have been developed to perfection. They incorporate industry-leading technology created in Japan to meet the highest standards for performance at the lowest possible costs of ownership.



## **Powerful performance**

Quick power switch increases engine output when required.



## **Industry-leading safety**

360° visibility from the cab.



## **Smooth operation**

Ride control minimises machine pitching.



## **Easy to operate**

The hydrostatic transmission enhances versatility and increases productivity.



## **Superior comfort**

Spacious cab with several storage compartments.



**Enhanced design**

Excellent rear view thanks to the curved engine hood.

**Quieter performance**

New materials in the cab absorb sound to reduce noise levels.

**Enhanced fuel efficiency**

New Tier 4 Final engine without DPF.

**Convenient access**

Easy-to-open wide engine covers.

**Exceptional durability**

Developed in-house, the front frame has been reinforced.

**Low running costs**

6%\* fuel saving in V-shaped loading (19%\* in travelling operations).

# FIRST FOR RELIABILITY

Renowned for reliability, Hitachi ZW-6 wheel loaders achieve exceptional levels of performance and efficiency with minimum downtime. The ZW120-6 have been designed with several user-friendly features that ensure quick and easy maintenance, and also contribute to lower running costs.

## Minimal downtime

The battery compartment can be accessed easily for maintenance and battery replacement. This results in minimal downtime and a high level of accessibility.

## Quick access

The side engine cover opens fully for convenient access. This helps to ensure routine maintenance is completed quickly to ensure a reliable performance.

## Improved fuel efficiency

The ZW-6 demonstrates greater fuel efficiency than the previous model during V-shape loading and load and carry

operations. This results in considerable savings for running costs.

## Easy maintenance

For safer and easier maintenance, the battery disconnect switch is now standard. This helps to avoid electrical accidents and retain battery energy during long-term storage.

## Reduced cost

The new Tier 4 Final certified engine does not require a diesel particulate filter, which further reduces fuel consumption and maintenance costs.



Easy access to the engine compartment.











 The final pre-delivery inspection procedure for each Hitachi wheel loader is typical of Hitachi's dedication to manufacturing products of unfailing quality in response to customer needs.



# DEDICATED TO DURABILITY

Strengthened components, robust materials and additional reinforcement for key features ensure the durability. They also contribute to its reliable operation, particularly when working in challenging environments.

## Added protection

The optional belly guard protects the machine powertrain and driveshaft from potential damage caused by materials on the ground.

## Strengthened components

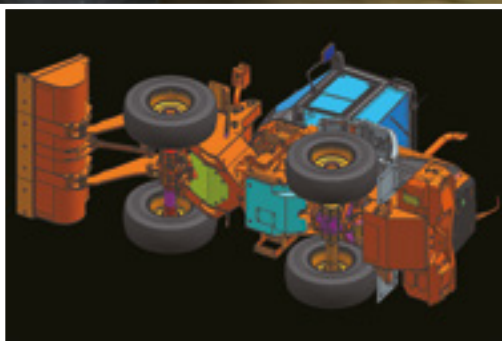
Heavy-duty axles, designed in-house, have been incorporated into the design to improve durability.

## Durable materials

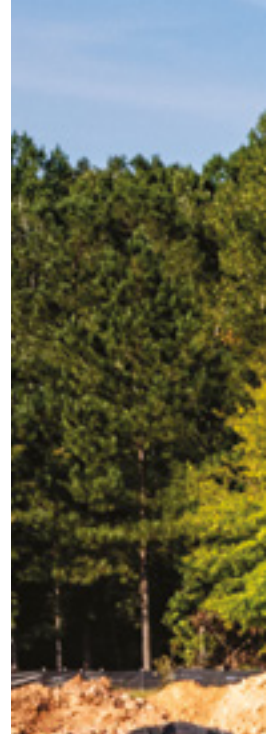
High-quality radiators improve resistance to corrosion and enhance the overall durability.

## Maximum uptime

Optional anti-clogging radiators (WPFR) are designed with square-shaped instead of triangular-shaped fins to prevent clogging. This reduces radiators maintenance frequency.



The optional belly guard provides added protection.



# INCREDIBLE VERSATILITY

ZW-6 wheel loaders are often described as a perfect fit by Hitachi customers, which illustrates their versatility for a wide range of applications and job sites. In addition, they are smooth and efficient to operate, and offer increased productivity and greater fuel efficiency.

## **Efficient flexibility**

The quick power switch increases engine output when more power is instantly required, or when driving uphill.

## **Enhanced rear visibility**

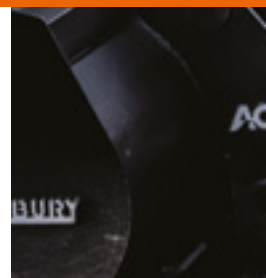
The muffler and air intake have been repositioned and aligned to improve the rear-view visibility from the cab, enhancing safety on a variety of job sites.

## **High efficiency**

When working in snowy, slippery or muddy conditions, the traction control system helps to avoid tire slippage, and ultimately prevents wear and fuel waste, and lowers running costs. It is highly effective for light applications.

## **Superior performance**

The rimpull control system allows for a superior digging performance by striking a balance between rimpull and front digging force. Rimpull can be adjusted to varying degrees, depending on the work mode.



Visibility has been enhanced by design modifications.







The ride control feature ensures smooth performance.



Torque proportioning differentials reduce tire slippage in wet or wintry conditions.





The cab provides a quiet and comfortable working environment.



Easy access for maintenance from ground level.



**i** Hitachi conducts user tests in Japan to assess the features of its wheel loaders. Results have revealed an unrivalled level of control.



# INDUSTRY-LEADING QUALITY

To set industry-leading standards in terms of performance, reliability, comfort and safety, the ZW120-6 have been built using components of the highest quality. Its clever design offers 360° visibility from the cab and ensures it is one of the quietest wheel loaders in its class.

## Reduced emission

A selective catalytic reduction (SCR) system injects urea into exhaust gas to reduce nitrous oxide from emissions. This cutting-edge technology not only helps the environment, but also complies with Tier 4 Final emission regulations.

## Easy access

The engine air filter has been relocated to the rear of the engine compartment, providing easier access at ground level for maintenance. The urea tank is also positioned for convenience.

## Excellent visibility

The 360° panoramic view of the spacious cab creates a comfortable working environment, and helps to increase safety and productivity. The optional rear-view camera also contributes to excellent all-round visibility and safety on the job site.

## Improved comfort

Sound insulation has been improved in the cab to significantly reduce noise levels and provide a quieter working environment for operators. The low-noise engine also results in a quieter performance, which makes it suitable for working in urban areas.



The optional rear-view camera contributes to all-round visibility.



# UNIQUE TECHNOLOGY

Advanced technology developed by Hitachi is at the heart of the ZW-6 wheel loaders. It has an impact on everything, from the wheel loader's environmental performance to the comfort and safety of its operator. A technology-led approach enables Hitachi to meet the evolving needs of the construction industry, and improve the experience of its customers.

## **Reduced maintenance**

A new Tier 4 Final certified engine contains a high-volume cooled exhaust gas recirculation (EGR) system, a common rail-type fuel injection system and a diesel oxidation catalyst (DOC). This helps to reduce fuel costs and maintenance requirements.

## **Smaller environmental impact**

The standard auto idle shutdown feature\* helps to prevent fuel waste, as well as reduce noise levels, exhaust emissions and CO<sub>2</sub> levels in the medium wheel loaders.

## **Optimum performance**

The 1st speed select switch in combination with the creep mode switch\* optimise the usage on different job sites and with hydraulic attachments.

## **Remote monitoring**

Global e-Service allows the owners to monitor their Hitachi machines remotely via Owner's Site (24/7 online access) and ConSite (an automatic monthly report). These help to maximise efficiency, minimise downtime and improve overall performance.

## **Smooth operation**

The ZW120-6 are easy to manoeuvre thanks to the HST control system. The operator can choose between two work modes according to the task and terrain, and it enables a smooth transition between speeds.





The HST control system enables a smooth performance.



The new engine and SCR system have a smaller environmental impact.

# REDUCING THE TOTAL COST OF OWNERSHIP



Hitachi has developed the Support Chain after-sales program to ensure optimum efficiency, as well as minimal downtime, reduced running costs and high resale values.

## Global e-Service

Hitachi has developed two remote monitoring systems as part of its Global e-Service online application. Owner's Site and ConSite are an integral part of the wheel loader, which sends operational data daily via GMS to [www.globaleservice.com](http://www.globaleservice.com). This allows immediate access to the Owner's Site, and the vital information that is required for support on job sites.

Comparing the ratio of operating and non-operating hours helps to enhance efficiency. Effective management of maintenance programs helps to maximise availability. Running costs

can also be managed by analysing the fuel consumption. The location and movements of each machine are clearly displayed for essential planning.

An automatic service report — ConSite — sends a monthly email summarising the information from Global e-Service for each machine. This includes: daily working hours and fuel consumption data; statistics on the operating mode ratio, plus a comparison for fuel consumption/efficiency, and emissions.

## Technical support

Each Hitachi service technician receives full technical training. This provides technicians access to the Hitachi's global experience and knowledge available within the Hitachi quality assurance departments and design centres. Technicians combine this global expertise with the local language and culture of the customer to provide the highest level of after-sales support.





Global e-Service

Technical support

Hitachi Parts

## Extended warranty and service contracts

Every new Hitachi ZW-6 model is covered by a full manufacturer's warranty. For extra protection — due to severe working conditions or to minimise equipment repair costs — Hitachi can offer a unique extended warranty and comprehensive service contracts. These can help to enhance ownership experience of each machine, reduce downtime and ensure higher resale values.

## Parts

Hitachi parts are available locally via Hitachi Branch network.

- Hitachi Genuine Parts allow machines to work longer with lower running and maintenance costs.
- Hitachi Genuine Parts are of proven quality and come with the manufacturer's warranty.
- Hitachi rebuilt components are available from Hitachi's in-house remanufacture

centre and are offered with a standard warranty.

- Parts can be ordered via Hitachi Online Parts, local branches or Hitachi's 24/7 support centre.

Whatever the choice, the renowned quality of Hitachi construction machinery is assured.









“ We develop construction machinery that contributes to the creation of affluent and comfortable societies ”

Kotaro Hirano, HCM President

## BUILDING A BETTER FUTURE

Established in 1910, Hitachi, Ltd. was built upon a founding philosophy of making a positive contribution to society through technology. This is still the inspiration behind the Hitachi group's reliable solutions that answer today's challenges and help to create a better world.

Hitachi, Ltd. is now one of the world's largest corporations, with a vast range of innovative products and services. These have been created to challenge convention, improve social infrastructure and contribute to a sustainable society.

Hitachi Construction Machinery Co., Ltd. (HCM) was founded in 1970 as a subsidiary of Hitachi, Ltd. and has become one of the world's largest construction equipment suppliers. A pioneer in producing hydraulic excavators, HCM also manufactures wheel loaders, rigid dump trucks, crawler cranes and special application machines at state-of-the-art facilities across the globe.

Incorporating advanced technology, Hitachi construction machinery has a reputation for the highest quality standards. Suitable for a wide range of industries, it is always

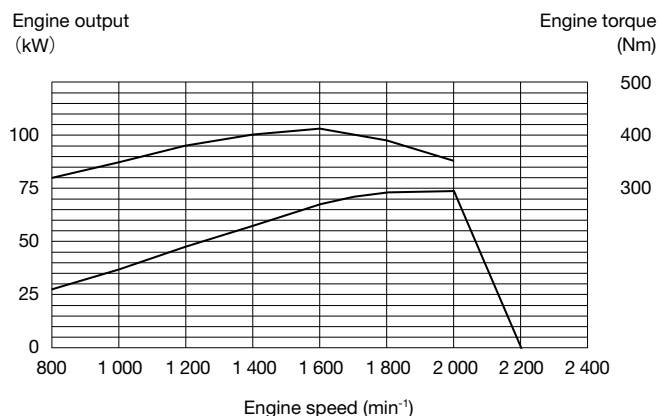
hard at work around the world – helping to create infrastructure for a safe and comfortable way of living, developing natural resources and supporting disaster relief efforts.

Hitachi ZW wheel loaders are renowned for being reliable, durable and versatile – capable of delivering the highest levels of productivity under the most challenging of conditions. They are designed to provide owners with a reduced total cost of ownership, and operators with the ultimate level of comfort and safety.

# SPECIFICATIONS

## ENGINE

Model .....	DEUTZ TCD3.6L4F
Type .....	4 cycle water-cooled, direct injection
Aspiration .....	Turbocharger and intercooled
Aftertreatment .....	DOC and SCR system
No. of cylinders .....	4
Maximum power	
ECE R120 gross .....	74kW (100 hp) at 2 000 min <sup>-1</sup> (rpm)
ISO 9249 : 2007 net .....	71kW (95 hp) at 2 000 min <sup>-1</sup> (rpm)
Rated power	
ISO 14396 : 2002 gross ...	74kW (100 hp) at 2 000 min <sup>-1</sup> (rpm)
ISO 9249 : 2007 net .....	71kW (95 hp) at 2 000 min <sup>-1</sup> (rpm)
Maximum torque,	
ISO 9249 : 2007 net .....	400 Nm at 1 600 min <sup>-1</sup> (rpm)
Bore and stroke .....	98 mm X 120 mm
Piston displacement .....	3.621 L
Batteries .....	2 x 12 V
Air cleaner .....	Two element dry type with restriction indicator
Emission .....	Complies with EU stage IV and US EPA Tier 4 Final



## POWER TRAIN

Transmission .....	Electrical-controlled 1 motor hydrostatic transmission with gear box, Gear box: Fixed gear ratio, powershift countershaft type
Cooling method .....	Forced circulation type
Travel speed* Forward / Reverse	
1st .....	11 / 11 km/h (11 / 11 km/h)
2nd .....	33.5 / 33.5 km/h (34.5 / 34.5 km/h)
*With 17.5-25 12PR(L2) tires	
( ) : Data at Power Mode	

## AXLE AND FINAL DRIVE

Drive system .....	Four-wheel drive system
Front & rear axle .....	Semi-floating
Front .....	Fixed to the front frame
Rear .....	Trunnion support
Reduction and differential gear .....	Two stage reduction with torque proportional differential
Oscillation angle .....	Total 20° (+10°, -10°)
Final drives .....	Heavy-duty planetary, mounted inboard

## BRAKES

Service brakes .....	Inboard mounted fully hydraulic 4 wheel wet disc brakes. Front & rear independent brake circuit, HST (Hydro Static Transmission) system provides additional hydraulic braking capacity
Parking brakes .....	Spring applied, hydraulically released, wet disc type

## STEERING SYSTEM

Type .....	Articulated frame steering
Steering angle .....	Each direction 40° ; total 80°
Cylinders .....	Double-acting piston type
No. x Bore x Stroke .....	2 x 60 mm x 395 mm

## HYDRAULIC SYSTEM

Arm and bucket are controlled by multi function control lever	
Arm controls .....	Four position valve; Raise, hold, lower, float
Bucket controls with automatic bucket return-to-dig control .....	Three position valve ; Roll back, hold, dump
Main pump (Serve as steering pump)	
.....	Gear type
Maximum flow .....	121 L/min at 2 000 min <sup>-1</sup> (rpm)
Maximum pressure ..	20.6 MPa
Hydraulic cylinders	
Type .....	Double acting type
No. x Bore x Stroke ...	Arm : 2 x 105 mm x 710 mm
	Bucket : 1 x 125 mm x 445 mm
Hydraulic cycle times	
Lift arm raise .....	6.2 s
Lift arm lower .....	2.7 s
Bucket dump .....	1.5 s
Total .....	10.4 s

\*Data at Power Mode

## ENVIROMENT

### Air Conditioning System

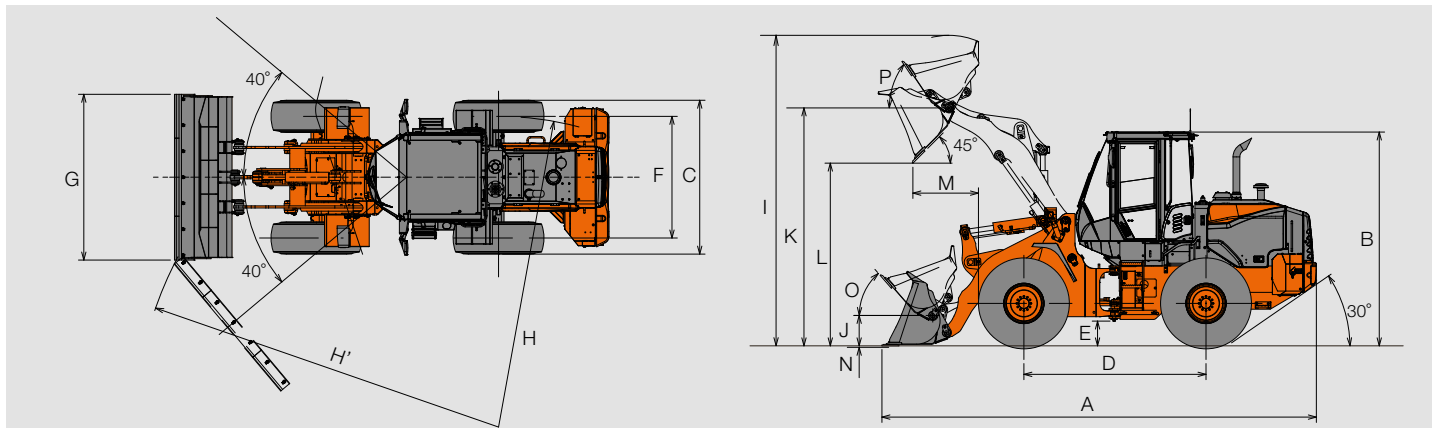
The air conditioning system contains fluorinated greenhouse gases.  
Refrigerant type: HFC-134a, GWP: 1430, Amount: 0.80, CO<sub>2</sub>e: 1.14±0.07ton.

## SERVICE REFILL CAPACITIES

Fuel tank .....	140 L
Engine coolant .....	16 L
Engine oil .....	10.5 L
Front axle differential & wheel hubs .....	14 L
Rear axle differential & wheel hubs .....	14 L
Hydraulic oil tank .....	75 L
DEF/AdBlue® tank .....	17 L



## DIMENSIONS & SPECIFICATIONS



Bucket type			Standard arm		High-lift arm
			General purpose		General purpose
			Bolt-on cutting edge	Bolt-on cutting edge	Bolt-on cutting edge
Bucket capacity	ISO 7546 : 1983 Heaped	m <sup>3</sup>	1.5	1.8	1.3
	ISO 7546 : 1983 Struck	m <sup>3</sup>	1.2	1.4	1.1
A Overall length		mm	6 505	6 630	6 980
B Overall height	up to cab top	mm	3 210	3 210	3 210
C Width over tires	outside tire	mm	2 270	2 270	2 270
D Wheel base		mm	2 725	2 275	2 725
E Ground clearance	Minimum	mm	370	370	370
F Tread		mm	1 820	1 820	1 820
G Bucket width		mm	2 480	2 480	2 480
H Turning radius (Centerline of outside tire)		mm	4 690	4 690	4 690
H' Loader clearance radius, bucket in carry position		mm	5 440	5 470	5 600
I Overall operating height	bucket full raise	mm	4 650	4 730	4 905
J Carry height of bucket pin	at carry position	mm	455	455	455
K Height to bucket hinge pin, fully raised		mm	3 560	3 560	3 900
L Dumping clearance 45 degree, full height		mm	2 730	2 645	3 130
M Reach, 45 degree dump, full height		mm	980	1 065	1 095
N Digging depth (Horizontal digging angle)		mm	70	70	220
O Max. roll back at carry position		deg	49	49	50
P Roll back angle at full height		deg	56	56	52
Static tipping load *	Straight	kg	6 500	6 410	5 970
	Full 40 degree turn	kg	5 600	5 530	5 140
Breakout force		kN	79	68	86
		kgf	8 060	6 940	8 770
Operating weight *		kg	8 420	8 510	8 960

Note: All dimensions, weight and performance data based on ISO 6746-1:1987, ISO 7137:2009 and ISO 7546:1983

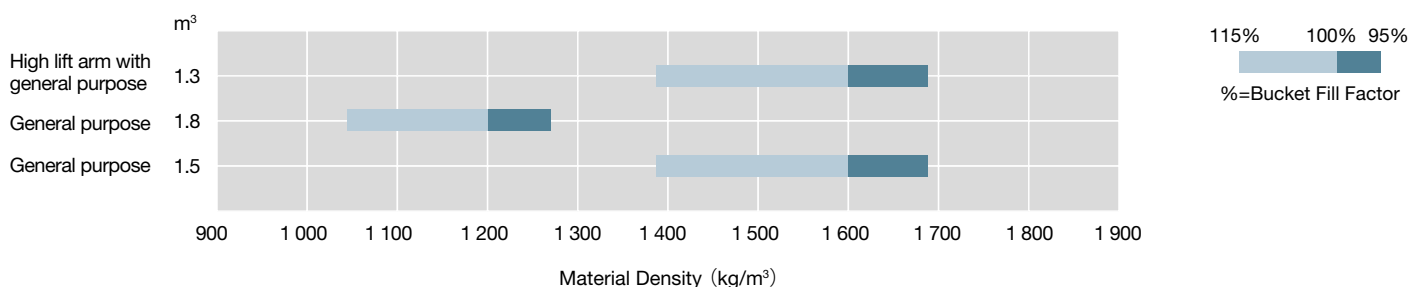
\*: Static tipping load and operating weight marked with\* include 17.5-25 12PR(L2) tires (No ballast) with lubricants, full fuel tank and operator.

Machine stability and operating weight depend on counterweight, tire size and other attachments.

## WEIGHT CHANGE

Option item	Operating weight (kg)	Tipping load (kg)		Overall width (mm) (outside tire)	Overall height (mm)	Overall length (mm)
		Straight	Full turn			
Tire 17.5R25(L2)	±0	±0	±0	±0	±0	±0
Belly guard	+70	+60	+50	±0	±0	±0

## BUCKET SELECTION GUIDE



# EQUIPMENT

● ..... Standard equipment

○ ..... Optional equipment

OPERATOR'S STATION	
Accessory outlet, 12V.	●
Adjustable armrest/console,(fore/aft sliding)	●
Air conditioner/heater/pressurizer	●
Ashtray	●
Cab dome lamps	●
Cigarette lighter	●
Coat hook	●
Cooler box storage area	●
Cup holder	●
Floormat	●
FM/AM radio with Bluetooth® and USB Port	●
Rear view camera & monitor	●
Retractable seat belt (75mm)	●
ROPS cab: Enclosed cab with sound suppression, front & rear wipers and washers, two rear view and side mirrors, tinted glass, full view latch-back doors, sliding sidewindows.	●
ROPS/FOPS certified	●
Seat, air suspension, fabric	●
Steering column, telescoping and tilting w/quick-release pedal	●
Storage box (heated/cooled)	●
Sun visor	●

ELECTRICAL SYSTEM	
Backup alarm	●
Battery disconnect switch	●
Converter, 12 V	●
Horn, dual electric	●
24-volt electrical system	●

LIGHTS	
Headlights (Halogen)	●
Stop/tail (LED)	●
Turn signals with hazard switch	●
Work lights	●
2, additional LED front lights on cab	●
2, Halogen front lights on cab	●
2, Halogen rear lights on machine engine grille	●
2, LED rear lights on cab	●

POWER TRAIN	
Differential	
TPD(Torque Proportioning Differential, front and rear)	●
LSD(Limited Slip Differential, front and rear)	○
Drive shafts, low maintenance	●
Hydrostatic transmission	●
Inching pedal	●
Maximum speed adjuster for 1st speed	●
Traction control	●

ENGINE	
Air filter double elements	●
Cold start (glow plug)	●
Cooler,Standard fin pitch	●
Deutz TCD3.6 diesel engine	●
EGR system	●
Fuel filter (main)	●
Fuel pre-filter, w/water separator	●
SCR catalyst and DOC	●
Work mode selector	●

MONITORING SYSTEM	
Gauge: coolant temperature, fuel level, HST oil temperature	●
Indicator lights: clearance lights, control lever lock, high beam, preheat, turn signals, work lights, seat belt indicator, power mode indicator, forward/reverse selector switch indicator, maintenance indicator, parking brake	●
Indicator on monitor display: clock, ECO indicator, F-N-R/Shift position indicator, hour meter, odometer, traction control indicator, ride control indicator, speedometer, DEF/AdBlue® level gauge	●
Warning lights: aftertreatment device warning, brake oil low level, discharge warning, engine oil low pressure, engine warning, overheat, HST warning, HST oil temperature, water separator indicator, urea warning	●



BRAKE SYSTEM	
Front & rear independent brake circuit	●
Inboard mounted fully hydraulic 4 wheel wet disc	●
Spring-applied/Hydraulic-released parking brake	●

HYDRAULIC SYSTEM	
Bucket auto leveler (Automatic return to dig control)	●
Control lever	●
for 3rd function, pilot-assisted	●
lock switch	●
single, pilot-assisted	●
Hydraulic filters	●
Lift arm kick out	●
Ride control system (OFF-AUTO type)	●
Quick coupler piping and switch	●
Reservoir sight gauge	●

TIRES	
17.5-25 12PR (L2)	●

MISCELLANEOUS	
Articulation lock bar	●
Belly guard (Bolt on type)	●
Bucket cylinder guard	●
Counterweight	●
Drawbar with locking pin	●
Fenders, rear, full, w/with mud flap	○
Global e-Service	●
Ladders, inclined	●
Lift arm	
High lift arm	○
Standard lift arm	●
Lift & tie down hooks	●
Linkage pins, HN bushing	●
Neutral safety start	●
Quick coupler & attachments	○
Standard tool kit	●
Steps, rear	●
Z-bar loader linkage	●

Prior to operating this machine, including satellite communication system, in a country other than a country of its intended use, it may be necessary to make modifications to it so that it complies with the local regulatory standards (including safety standards) and legal requirements of that particular country. Please do not export or operate this machine outside the country of its intended use until such compliance has been confirmed. Please contact your Hitachi dealer in case of questions about compliance.

These specifications are subject to change without notice. Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, and all standard equipment with some differences in color and features. Before use, read and understand the Operator's Manual for proper operation.