

Construction Machinery



1 ZX210X-6 ICT hydraulic excavator (left) and touch panel monitor (right)

1 ZX210X-6 ICT Hydraulic Excavator

Hitachi Construction Machinery Co., Ltd. has released the ZX210X-6 hydraulic excavator for the Japanese market. The ZX210X-6 features information and communication technology (ICT) and meets the revised 2014 standards of the Act on Regulation, Etc. of Emissions from Non-road Special Motor Vehicles (Off-Road Act). Based on the previous-generation ZX200-6, this model includes a machine guidance function showing the positional relationship between the machine and surface to be excavated, its orientation, and other data, and a solution linkage assist system, which is Hitachi Construction Machinery's proprietary system for using data to assist in work operations.

The main features are as follows.

- (1) Machine guidance systems that use a touch panel monitor for intuitive monitor operation.
- (2) Machine control functions, include a main function that prevents excessive excavation of the target surface by controlling the bucket, and a bucket angle lock mode to hold the bucket at a fixed angle to enable more accurate and efficient operations. This allows improved finishing accuracy and faster operation compared to the previous model (ZX210X-5B) for almost 35% higher workloads.

- (3) As a part of the "i-Construction" initiative led by the Ministry of Land, Infrastructure, Transport and Tourism, the ZX210X-6 is linked to a solution linkage cloud, which is Hitachi Construction Machinery's cloud service for providing optimum solutions, enabling access to applications that assist in ICT operations. (Hitachi Construction Machinery Co., Ltd.)

* See "Trademarks" on page 148.

2 ZH200-6 Hybrid Hydraulic Excavator

Hitachi Construction Machinery has released the ZH200-6 hybrid excavator, which meets the revised 2014 standards of the Off-Road Act and features 20% less fuel consumption than the ZX200-6 standard hydraulic excavator.

The main features are as follows.

- (1) Enhanced hybrid technology improves up to 38% more energy regeneration during swing deceleration. The stored electrical energy is used by a motor generator to assist the engine.
- (2) An electronically-controlled hydraulic system is used to optimize energy efficiency to enable both low fuel consumption and ease of operability.
- (3) An enhanced exhaust gas recirculation (EGR) system is used to reduce NO_x (nitrogen oxide) emissions. Compared to other models using a urea selective catalytic reduction (SCR) system, this system does not require the refilling of a urea solution, enabling lower non-fuel running costs.
- (4) As part of the One Hitachi initiative, the ZH200-6 uses a lithium-ion battery developed from a joint research project with Hitachi Automotive Systems, Ltd. Complete battery temperature and charging/discharging management is performed to ensure maximum service life.



2 ZH200-6 hybrid hydraulic excavator



(5) In an idling stop system, a motor generator is used to restart the engine to enable quick and quiet engine starts.
(Hitachi Construction Machinery Co., Ltd.)

3 ZX125W-6 Wheeled Hydraulic Excavator

Hitachi Construction Machinery has developed the ZX125W-6 wheeled hydraulic excavator in response to strong demand for development of a 12-ton class wheeled hydraulic excavator for the Japanese market.

This model features a compact design capable of full swing on roads with 3.5-meter-wide lanes to meet the needs of increasingly narrower worksites. It is also equipped with a new engine that provides powerful acceleration and smooth hill-climbing performance.

The main features are as follows.

- (1) Equipped with an engine meets the 2014 standards and 2014 revisions of the Act on Regulation, Etc. of Emissions from Non-road Special Motor Vehicles (Off-Road Act).
- (2) The hydraulic suspension uses the front axle to improve road surface characteristics when running and to reduce operator fatigue.
- (3) Uses an auto-axle lock system that automatically locks the suspension cylinder when the foot is taken off the accelerator pedal while working.



3 ZX125W-6 wheeled hydraulic excavator



(4) Provides a handle at the top of the upper cab structure and a battery disconnect switch for enhanced safety during maintenance work.
(5) Light-emitted diode (LED) brake lamps are used for higher visibility combined with lower power usage and longer service life.
(Hitachi Construction Machinery Co., Ltd.)

4 ZX35U-5B Compact Excavator for Dismantling Wooden Homes

The ZX35U-5B for dismantling wooden homes is a hydraulic mini excavator designed to meet the market need for the dismantling of wooden homes in confined spaces and is widely utilized for urban redevelopment projects in cities and in the rebuilding of wooden homes with low earthquake resistance.

The main features are as follows.

- (1) Enhanced safety

To ensure visibility in the upper field of view, it has a four-pillar canopy with overhead window (including ceiling and top- and bottom-front guards as standard equipment) that supports tip-over protective structures (TOPS) and operator protective guards (OPG) design standards. A retractable undercarriage facilitates access from narrow roads and a 5-ton class equivalent long crawler is provided for high stability.



ZX35U-5B Compact Excavator for Dismantling Wooden Homes		
Machine weight	(kg)	4,560
Engine rated output	(kW/mn ⁻¹)	18.0/2,400
Maximum cutting height (arm end pin)	(mm)	6,310
Maximum digging reach (arm end pin)	(mm)	5,260
Minimum operating width	(mm)	1,550
Rear end swing radius (min)	(mm)	980
Undercarriage width (extended/retracted)	(mm)	1,550/1,950
Swing speed	(mm ⁻¹)	9.1
Travel speed (high/low)	(km/h)	4.3/2.8
Total transport length	(mm)	5,100
Total transport width	(mm)	1,550
Total transport height	(mm)	2,730
Minimum ground clearance	(mm)	160
Operation system		Hydraulic pilot
Boom swing angle (left/right)	(degrees)	62/45
Standard shoe width (iron crawler)	(mm)	300

*The dimensions and weights shown here are the specifications for the 4-pillar canopy model.

4 ZX35U-5B compact excavator (left), main specifications (right)

(2) Enhanced workability and ease of operation

A proprietary front design (high post, straight boom, long arm) provides the same operational feeling as standard machines and enables a maximum cutting height (arm end) equivalent to the 7-ton class (ZX75US-5B standard specifications). The auxiliary function lever (R/L) can be used to operate attachments, providing a clutter-free foot area.

(3) Improved ease of maintenance

A vertical sliding engine cover and full-open side cover are provided to enable easy access for maintenance and a dustproof net is provided as standard equipment to reduce the infiltration of dust and other particles.

(Hitachi Construction Machinery Co., Ltd.)

5 ZW140-6/ZW150-6 Wheeled Loader

Hitachi Construction Machinery has released the ZW140-6 and ZW150-6 wheeled loaders, which meet Japan's latest emission regulations, providing superior operational performance with reduced environmental impact. The active hydrostatic transmission (HST) control system, which was used in previous models to reduce fuel consumption, is combined with less travel resistance, reducing fuel consumption by about 10% for average work. The exhaust gas post-treatment

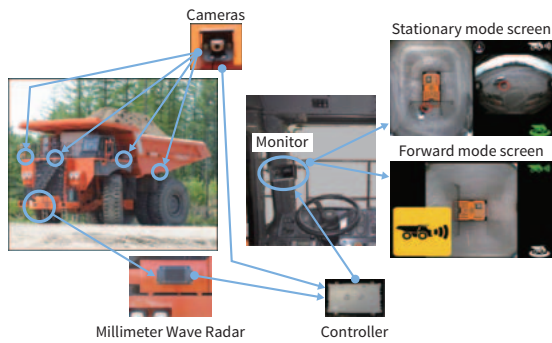
system is a newly-designed urea selective catalytic reduction (SCR) system that eliminates the need for particulate matter (PM) filters, reducing maintenance costs for customers.

The other features are as follows.

- (1) Speed-sensing ride control system included as standard equipment to reduce operator fatigue
- (2) Approach speed control included as standard equipment to automatically limit maximum speed at dump approach to 10 km/h and to reduce unneeded travel
- (3) Wide panoramic cab and rear under-mirror for expanded visibility of surroundings
- (4) Expansion tank included as standard equipment to automatically remove air from the engine cooling system
- (5) Transmission function for issuing regular reports on operating status and emergency reports when an emergency alarm occurs



5 ZW150-6 wheeled loader



6 Aerial angle system configuration and monitor screens

6 Operation Safety Support System for Dump Trucks

Hitachi Construction Machinery has released the aerial angle safety support system for dump trucks that alerts operators to obstacles around the dump truck to reduce minor collisions by dump trucks operating at mining sites.

The main features are as follows.

(1) Camera image synthesizing function

Images from four cameras mounted around the vehicle are combined into a single bird's eye view using alpha blend technology for displaying on a single monitor without any blind spots.

(2) Stationary mode

When the dump truck is stopped, images from the four cameras mounted on the vehicle is used to detect any moving objects nearby, which appear with a warning mark on the monitor. Also, before moving forward or backward, if a moving object is detected in the advancing direction, a buzzer is sounded to alert the operator.

(3) Forward mode

While the operator is driving the dump truck, a millimeter wave radar mounted to the front is used to detect any obstacles in front of the vehicle. Based on the distance and relative angle



7 ZC220P-6 pneumatic tired roller

with the detected obstacle, a buzzer is sounded and a warning mark is displayed on the monitor in time for the operator to brake or steer to avoid the obstacle.

(Hitachi Construction Machinery Co., Ltd.)

7 ZC220P-6 Pneumatic Tired Roller

The ZC220P-6 is a pneumatic tired roller that meets the revised 2014 standards of the Off-Road Act and has been completely redesigned for enhanced ease of maintenance, eco-friendly performance, and safety.

The main features are as follows.

(1) Ease of maintenance

A diesel oxidation catalyst (DOC) system is used in the exhaust gas post-treatment system to eliminate the need for regenerative control or regular maintenance. Also, a mobile communication terminal is included as standard equipment to provide an alarm report to the customer when an alarm is detected that could lead to a machine breakdown, which is the first time* that this type of function has been included in compaction machinery.

(2) Environment-friendly

A newly-designed engine and optimized Hitachi hydraulic pump settings are used to reduce fuel consumption by about 7.6% from the previous model. Also, the ZC220P-6 meets the standards for ultra-low-noise construction machinery specified by the Ministry of Land, Infrastructure, Transport and Tourism, and features -3 dB noise reduction compare to the previous model.

(3) Safety

Its large three-tiered steps help to enhance safety when getting on and off and enable increased visibility on the left side of the driver's seat. An infrared obstacle detection system that uses rotating lamps and buzzers to alert the operator of dangers and a backward guard sensor are provided as standard equipment.

(Hitachi Construction Machinery Co., Ltd.)

* As of December 2017, in pneumatic tired rollers, macadam rollers, combined rollers, and tandem rollers (research by Hitachi Construction Machinery).