

# EX1900



## HYDRAULIC EXCAVATOR

Model Code : EX1900-6  
Engine Gross Power : 810 kW (1 086 HP)  
Operating Weight : Backhoe : 192 000 kg  
Loading Shovel : 191 000 kg  
Backhoe Bucket : SAE, PCSA Heaped : 4.4 - 12.0 m<sup>3</sup>  
CECE Heaped : 3.8 - 10.6 m<sup>3</sup>  
Loading Shovel Bucket : Heaped : 8.8 - 12.0 m<sup>3</sup>



# Ultra Large Sized Production from the Hitachi Gigantic Excavators

The Hitachi Giants Yield Amazing Mining Production...  
Setting a New Standard



Note: Photos in this brochure may include optional equipment.  
They may also include custom-made options to meet specific user needs.



# Giant-Sized Productivity Based on Hitachi's Theory of Evolution.

Each Hitachi generation listens to the needs of the work site and gives birth to an even-better new generation.

## Bucket Passes to Dump Trucks

| Dump Truck                         | EH1700-3    |
|------------------------------------|-------------|
| Nominal Payload                    | 95.2 tonnes |
| Backhoe 12.0 m <sup>3</sup>        | 4 or 5      |
| Loading Shovel 11.0 m <sup>3</sup> | 5           |

- Best matched with EH1700-3 dump truck

## Powerful Single Engine— Ready for the task.

Time-proven Cummins diesel engine produces a total of 810 kW (1 086 HP) for handling the big excavation jobs.

## Engine Rated Power

- 810 kW (1 086 HP)



## Emission Control Engines— Helping to protect our environment.

Conforms to U.S. EPA Tier II emission regulations.

## Efficient E-P Control— Adjusts power output to the work being performed.

Hitachi's computer-aided Engine-Pump Control (E-P Control) coaxes optimum efficiency from the engine and hydraulic pumps. This innovative system senses load demand and controls engine and pump output for maximum operating efficiency.

## Larger Bucket Provides High Work Capacity.

- Backhoe bucket : 12.0 m<sup>3</sup>
- Loading shovel bucket : 11.0 m<sup>3</sup>

## Maximum Excavating Force.

### Backhoe (12.0 m<sup>3</sup> bucket)

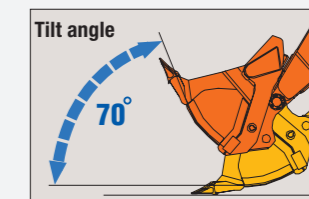
- Arm crowd force
  - ISO : 620 kN (63 200 kgf)
  - SAE,PCSA : 609 kN (62 100 kgf)
- Bucket digging force
  - ISO : 671 kN (68 400 kgf)
  - SAE,PCSA : 617 kN (62 900 kgf)

### Loading shovel (11.0m<sup>3</sup> bucket)

- Arm crowding force on ground : 720 kN (73 500 kgf)
- Bucket digging force : 754 kN (76 900 kgf)

## Large Bucket— Designed to enhance efficiency.

The large bucket has been shaped specifically to enhance scooping and loading operations. Its sharp tilt angle helps boost operating efficiency.



## Productivity-Boosting Auto-Leveling Mechanism— One-lever leveling control.

This is another unique Hitachi function developed exclusively for more efficient leveling operations.

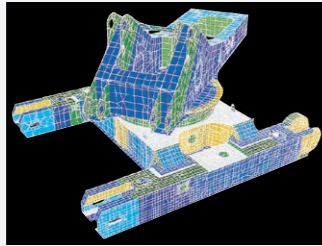


# More Than Durable— Just Plain Tough

Built-in toughness means the Hitachi will continue to get giant-sized jobs done fast.

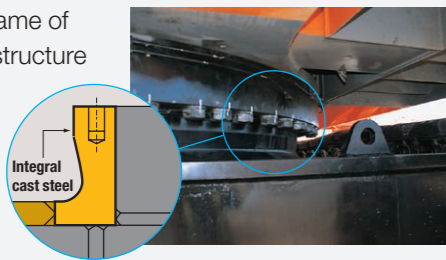
## Rigid Box Design— Resists bending and twisting forces.

Computer-assisted analysis was used to check that the frame box can withstand heavy-duty excavation work.



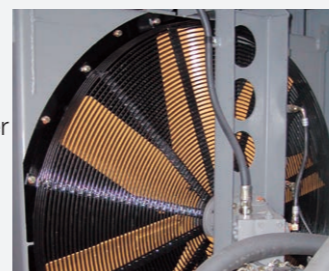
## Center Track Frame— More strength for this key area.

The center track frame of integral cast steel structure can avoid stress concentration and increase reliability.



## Strategically Positioned Oil Cooler— Helps keep oil temperatures.

The oil cooler is used for optimal cooling efficiency. It is positioned far from the engine radiator for even better cooling potential.



## High-Mounted Compact Travel Motors and Optional Travel Motor Guards— Help to boost durability at rugged work sites.

This design helps protect the travel motors from damage by rocks.





# Designed to Offer Comfort and Intelligence

Comfortable operator space and simplified maintenance, backed by Hitachi technologies and experience.

## High Visibility 6.03 Meter Cab Height— Providing a clear view of the work area.

Gives the operator a clear view, even when a large 90 tonnes class dump truck is being loaded. This high height and forward-sloping cab provides a view that boosts productivity.

## Rugged Comfortable Cab— Protects the operator from falling objects.

Fluid-filled elastic mounts help absorb vibration to provide durability and a comfortable ride. The OPG\* top guard level II (ISO) is provided on the cab roof.

\*Operator Protective Guard

## Efficient Cab Layout— All controls within natural reach of operator.

The ergonomic layout of the cab means the operator will do less stretching and reaching when operating the controls. This adds up to less operator fatigue and greater operating efficiency.

## Electric Joystick Levers— Provides pleasant control with less fatigue.

Electric joystick control levers have a feather-touch allowing long periods of effortless operation. Its stroke is much shorter than that of hydraulic control.



## Air Suspension Seat with Auto Operator Weight Adjuster.

The operator seat cushion can automatically be adjusted according to the operator weight. This is convenient for a machine operated by two or more operators.

## Adjustable Sliding Cockpit— Moves to the best position for the operator.

The operator can adjust the position of the levers and the seat to custom fit his size and operating style.

## Constant-Cab-Comfort Air Conditioner— Keeps the cab pressurized to keep out dust while maintaining comfortable temperature.

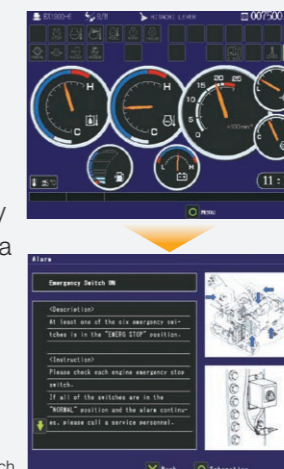
## Intelligent Multi-Display Monitor— Provides machine data and operating status at a glance.

The operator can monitor machine conditions and operating status with a 10.5-inch color LCD. The controller provides instant fault diagnosis through all sensors, displaying warnings and countermeasures if failure arises.

### Major Functions:

- Multiple meters, and alert symbols indication
- Alert/failure status, and countermeasures indication
- Snap-shot function that stores operating data, including five-minute operating data immediately before alerting, and succeeding one-minute data (temperatures, pressures, and more)
- Setting oil change intervals with alerting

Much more functions are provided to ease maintenance and servicing.



\* Illustration shows a sample of the Emergency Switch.

## Outside Cameras (Optional)— Enhance operating safety.

The operator can monitor around the machine, using four optional cameras to eliminate blind spots.





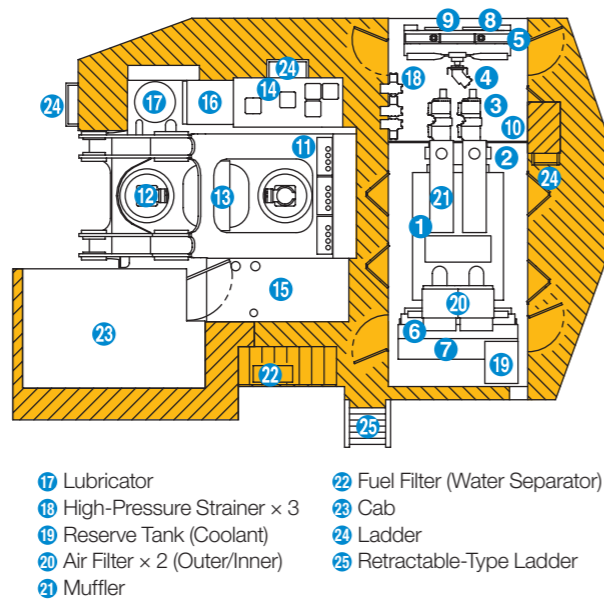
# Designed to be Maintainable

Carefully engineered to allow full 24-hour operation.



## Easy Access and Maintenance— Easy access speeds inspections and maintenance.

The wide fender, spacious counterweight top and central passage give easy access to major components for convenience of inspection and maintenance.



- |                                   |                                |                                 |                                  |
|-----------------------------------|--------------------------------|---------------------------------|----------------------------------|
| 1 Diesel Engine                   | 9 Pump Transmission Oil Cooler | 17 Lubricator                   | 22 Fuel Filter (Water Separator) |
| 2 Pump Drive Unit                 | 10 Engine-Pump Bulkhead        | 18 High-Pressure Strainer x 3   | 23 Cab                           |
| 3 Hydraulic Pump x 6              | 11 Control Valve x 3           | 19 Reserve Tank (Coolant)       | 24 Ladder                        |
| 4 Hydraulic Oil Cooling Fan Motor | 12 Swing Device x 2            | 20 Air Filter x 2 (Outer/Inner) | 25 Retractable-Type Ladder       |
| 5 Hydraulic Oil Cooler            | 13 Center Joint                | 21 Muffler                      |                                  |
| 6 Engine Radiator                 | 14 Hydraulic Tank              |                                 |                                  |
| 7 LTA Radiator                    | 15 Fuel Tank                   |                                 |                                  |
| 8 Fuel Cooler                     | 16 Battery Unit                |                                 |                                  |

## Counterweight with Walkway— Easier access for maintenance.

A walkway around the entire counterweight provides easy access to key rear areas. This means faster and safer inspection and maintenance.



## Wide-Open Service Area— Provides the space needed for quick and easy inspection and maintenance.

This area is conveniently located at the center of the body and provides access to the engine as well as the hydraulic and electrical systems.



## Folding Stairs with Wide Steps (Optional).

Folding stairs are designed for easy access to the machine for servicing and maintenance.



## Auto Lubrication System— Eliminates the need for manual lubrication.

This system automatically lubricates the front joint pins and swing circle. This eliminates cumbersome daily lubrication.

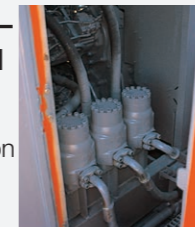
## Easy-to-Replace Grease Drum Can— Designed to provide quick and easy grease drum can changes.

The compartment floor slides down to lower a drum for simple, easy replacement.



## Convenient Centralized Filter System— Designed to make filter inspection and maintenance easier.

Centralized position means that inspection and maintenance can be performed quickly and easily.



## The Centralized Lubrication System: Fast-Filling System



## Low Maintenance Dust Ejector— Automatically expels dust from the air cleaner.

This is one less time-consuming task during routine maintenance.

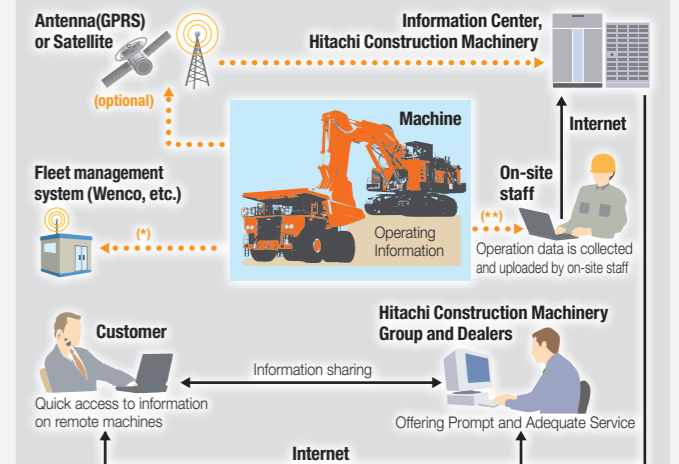
## Contamination sensor— Alerts the operator of excessive contaminants in the oil.

This system detects accumulated contaminants that could cause damage and alerts the operator before trouble occurs.



## Remote Machine Management with Global e-Service

This on-line machine management system allows you to access each on-site machine from a PC in your office. You can get its operating information and location to increase productivity. Operating data and log are sent to a Hitachi server for processing, and then to customer and dealers. This system is available 24 hours a day, all the year around.

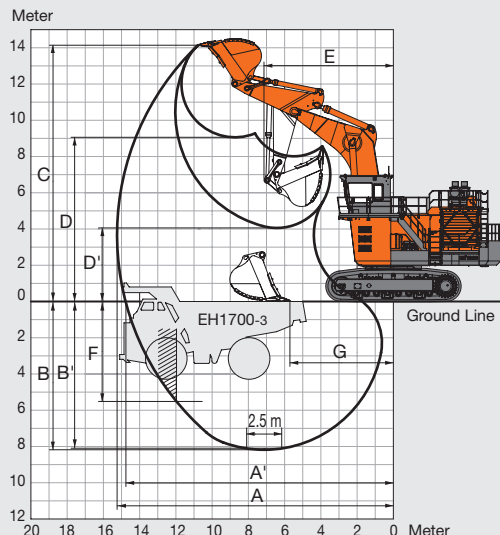


Note : In some regions, Global e-service is not available by local regulations.  
 \* DTU (optional) and fleet management system contract are required.  
 DTU : Data Transfer Unit  
 \*\*WIU (optional) to transmit operating data for wireless collection is required.  
 WIU : Wireless Interface Unit



## WORKING RANGES

### Backhoe



|                                     | m              | 8.3    | 8.7    | 8.7    | 11.8   |        |        |
|-------------------------------------|----------------|--------|--------|--------|--------|--------|--------|
| Boom length                         | m              | 8.3    | 8.7    | 8.7    | 11.8   |        |        |
| Arm length                          | m              | 3.6    | 4.0    | 5.5    | 4.0    | 5.5    | 7.0    |
| Bucket capacity (SAE, PCSA heaped)  | m <sup>3</sup> | 12.0   | 9.6    | 8.0    | 6.0    | 4.8    | 4.4    |
| A Max. digging reach                | mm             | 15 250 | 16 070 | 17 500 | 19 390 | 20 860 | 21 850 |
| A' Max. digging reach (on ground)   | mm             | 14 770 | 15 630 | 17 090 | 19 020 | 20 520 | 21 530 |
| B Max. digging depth                | mm             | 8 180  | 9 230  | 10 730 | 11 780 | 13 280 | 14 430 |
| B' Max. digging depth (2.5 m level) | mm             | 8 070  | 9 120  | 10 640 | 11 670 | 13 190 | 14 350 |
| C Max. cutting height               | mm             | 14 140 | 14 480 | 15 010 | 17 380 | 18 140 | 17 900 |
| D Max. dumping height               | mm             | 9 060  | 9 200  | 9 810  | 11 820 | 12 660 | 13 200 |
| D' Min. dumping height              | mm             | 4 060  | 3 560  | 2 060  | 5 690  | 4 220  | 3 230  |
| E Min. swing radius                 | mm             | 7 140  | 7 760  | 7 710  | 10 110 | 10 390 | 10 830 |
| F Max. vertical wall                | mm             | 5 520  | 6 630  | 7 430  | 10 050 | 11 010 | 11 260 |
| G Min. level crowding distance      | mm             | 4 480  | 5 230  | 4 810  | 8 940  | 8 600  | 8 770  |

Boom length 8.30 m  
 Arm length 3.60 m  
 Bucket capacity 12.0 m<sup>3</sup>  
 Bucket digging force  
 ISO 671 kN (68 400 kgf)  
 SAE: PCSA 617 kN (62 900 kgf)  
 Arm crowd force  
 ISO 620 kN (63 200 kgf)  
 SAE: PCSA 609 kN (62 100 kgf)

### ENGINE

Model..... Cummins QSKTA38-CE  
 Rated power  
 SAE J1995, gross ... 810 kW (1 086 HP) at 1 800 min<sup>-1</sup> (rpm)  
 Net..... 775 kW (1 039 HP) at 1 800 min<sup>-1</sup> (rpm)  
 Piston displacement.... 37.8 L  
 Fuel tank capacity ..... 4 140 L

### HYDRAULIC SYSTEM

Main pumps ..... 6 variable-displacement, piston pumps for front attachment, travel and swing  
 Pressure setting ..... 29.4 MPa (300 kgf/cm<sup>2</sup>)  
 Max. oil flow ..... 6 × 335 L/min

### UPPERSTRUCTURE

Swing speed ..... 4.7 min<sup>-1</sup> (rpm)

### UNDERCARRIAGE

Travel speeds ..... High: 0 to 2.8 km/h Low : 0 to 2.1 km/h  
 Maximum traction force ... 941.5 kN (96 000 kgf)  
 Gradeability ..... 58 % (30 degree) max.

### WEIGHTS AND GROUND PRESSURE

#### Backhoe

Equipped with 8.3 m boom, 3.6 m arm, and 12.0 m<sup>3</sup> (SAE, PCSA heaped) bucket.

| Shoe width | Operating weight | Ground pressure                     |
|------------|------------------|-------------------------------------|
| 800 mm     | 192 000 kg       | 184 kPa (1.88 kgf/cm <sup>2</sup> ) |

#### Loading Shovel

Equipped with 11.0 m<sup>3</sup> (heaped) bottom dump bucket.

| Shoe width | Operating weight | Ground pressure                     |
|------------|------------------|-------------------------------------|
| 800 mm     | 191 000 kg       | 183 kPa (1.87 kgf/cm <sup>2</sup> ) |

### ATTACHMENTS

#### Backhoe: Bucket Capacity (SAE, PCSA heaped)

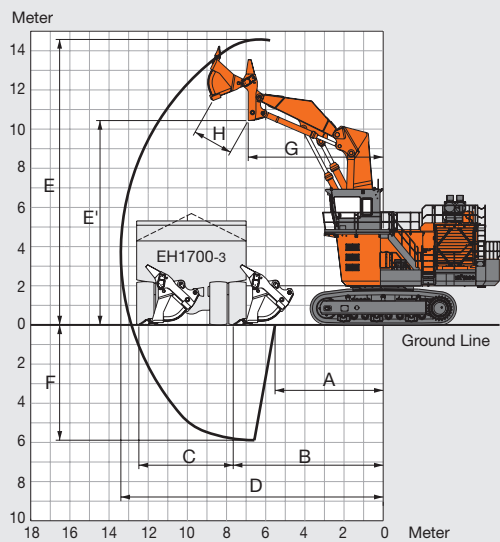
12.0 m<sup>3</sup> / 9.6 m<sup>3</sup> / 8.0 m<sup>3</sup> / 6.0 m<sup>3</sup> / 4.8 m<sup>3</sup> / 4.4 m<sup>3</sup> :  
 Materials density 1 800 kg/m<sup>3</sup> or less

#### Loading Shovel: Bucket Capacity (heaped)

8.8 m<sup>3</sup> : Materials density 2 500 kg/m<sup>3</sup> or less  
 11.0 m<sup>3</sup> : Materials density 1 800 kg/m<sup>3</sup> or less  
 12.0 m<sup>3</sup> : Materials density 1 600 kg/m<sup>3</sup> or less

The number of wear plates and their installation positions on the bucket of loading shovel or backhoe vary depending on applications at job site. The installation of wear plates is indispensable. Consult your nearest Hitachi or Hitachi dealer for details.

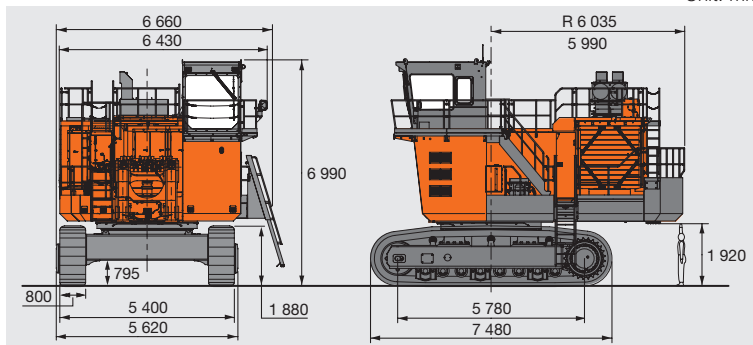
### Loading Shovel



A Min. digging distance  
5 550 mm  
 B Min. level crowding distance  
7 650 mm  
 C Level crowding distance  
4 820 mm  
 D Max. digging reach  
13 430 mm  
 E Max. cutting height  
14 610 mm  
 E' Max. dumping height  
10 440 mm  
 F Max. digging depth  
5 920 mm  
 G Working radius at max. dumping height  
6 890 mm  
 H Max. bucket opening width  
2 100 mm  
 Arm crowd force on ground  
 8.8 m<sup>3</sup> 720 kN (73 500 kgf)  
 11.0 m<sup>3</sup> 720 kN (73 500 kgf)  
 12.0 m<sup>3</sup> 655 kN (66 800 kgf)  
 Bucket digging force  
 8.8 m<sup>3</sup> 754 kN (76 900 kgf)  
 11.0 m<sup>3</sup> 754 kN (76 900 kgf)  
 12.0 m<sup>3</sup> 687 kN (70 100 kgf)

### DIMENSIONS

Unit: mm



Before using a machine with a satellite communication system, please make sure that the satellite communication system complies with local regulations, safety standards and legal requirements. If not so, please make modifications accordingly.

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.