### **HITACHI**

### Reliable solutions





### **HYDRAULIC EXCAVATOR**

Model: EX3600-7 (Fuel Consumption Optimization)
Engine Rated Power: Cummins: 1 450 kW (1 971 PS, 1 944 HP)

MTU: 1 450 kW (1 971 PS, 1 944 HP)

Operating Weight: Cummins Loading Shovel: 365 000 kg (804,687 lb.) Operating Weight:

Backhoe: 366 000 kg (806,892 lb.) MTU Loading Shovel: 366 000 kg (806,892 lb.) Backhoe: 367 000 kg (809,097 lb.)

**Bucket:** Loading Shovel: ISO Heaped : 22.0 - 24.0 m³ (28.8 - 31.4 cu. yd.)

Backhoe: ISO Heaped

: 22.0 - 24.0 m³ (28.8 - 31.4 cu. yd.)

Model: EX3600-7B (Tier 4 Final)

Engine Rated Power: Cummins: 1 450 kW (1 971 PS, 1 944 HP)

MTU: 1 500 kW (2 040 PS, 2 010 HP)

Cummins Loading Shovel: 369 000 kg (813,506 lb.)

Backhoe: 370 000 kg (815,710 lb.) MTU Loading Shovel: 366 000 kg (806,892 lb.)

Backhoe: 367 000 kg (809,097 lb.) Loading Shovel: ISO Heaped

: 22.0 - 24.0 m³ (28.8 - 31.4 cu. yd.)

Backhoe: ISO Heaped

: 22.0 - 24.0 m³ (28.8 - 31.4 cu. yd.)

EX3600-7E

Power Output: 1 200 kW (1 632 PS, 1 609 HP)

Bucket: Loading Shovel: ISO Heaped

: 22.0 - 24.0 m³ (28.8 - 31.4 cu. yd.)

Backhoe: ISO Heaped

: 22.0 - 24.0 m3 (28.8 - 31.4 cu. yd.)



### **SUSTAINABILITY**

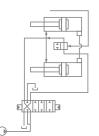
Hitachi's energy optimization technologies are kinder to the planet and reduce consumption costs while achieving superior productivity.

The EX3600-7 features a selection of engine configurations to meet regulatory requirements, electronically controlled hydraulic pumps, an optimized cooling package, and enhanced hydraulic circuits for a sustainable solution that doesn't compromise on performance.



### MAIN PUMP ELECTRIC REGULATORS

Each individually controlled hydraulic pump has its own electric regulator, enhancing engine power, lowering fuel consumption, and increasing productivity to lower the total cost of operation.

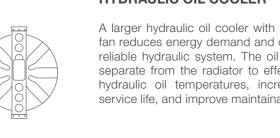


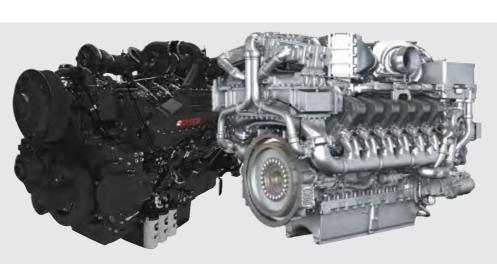
### **HYDRAULIC REGENERATION CIRCUIT**

The flow regeneration valve fitted to the hydraulic system reduces pump demand, ultimately reducing power requirements from the hydraulic system and engine. The result is lower fuel consumption and improved pump life.

### **HYDRAULIC OIL COOLER**

A larger hydraulic oil cooler with variable speed fan reduces energy demand and creates a more reliable hydraulic system. The oil cooler is kept separate from the radiator to effectively reduce hydraulic oil temperatures, increase hydraulic service life, and improve maintainability.





### MTU

MTU 12V4000, after-cooled, 12 cylinder, 57.2 L (3 491 cu. in.)

#### Options:

MTU diesel engine U.S.A. E.P.A. Tier 4 conforming 2-stage turbo-charged model 1 500 kW (2 040 PS, 2 010 HP)

MTU diesel engine Fuel Consumption Optimization (FCO) single stage turbo-charged model 1 450 kW (1 971 PS, 1 944 HP)

### HITACHI AC ELECTRIC MOTOR

The EX3600-7E electric excavator is available, operating with the Hitachi AC electric motor

### Options:

electric motor (1 200 kW (1 632 PS, 1 609 HP)) 50Hz, 6 000 V, 6 600 V\*

electric motor (1 200 kW (1 632 PS, 1 609 HP)) 60Hz. 6 600 V. 6 900 V\*

\*Please contact hitachi for other specification request









### **ENGINE OPTIONS**

#### CUMMINS

Cummins QSK60, 16 cylinder, 60.0 L (3,661 cu. in.), turbo-charged, after-cooled 1 450 kW (1 971 PS, 1 944 HP)

#### Options:

Cummins diesel engine U.S.A. E.P.A. Tier 4 conforming model, with Diesel Exhaust Fluid (DEF) tank

Cummins diesel engine Fuel Consumption Optimization (FCO) model



## **PRODUCTIVITY**

Equipped with more than 100 years of technological innovation from Hitachi, Ltd. group companies, our EX-7 excavators are engineered to achieve more for your mine site.

The EX3600-7 delivers exceptional around-the-clock performance while optimizing consumption, taking productivity to a new level.

### FRONT ATTACHMENT

With a front attachment design that prioritizes performance, the EX3600-7 can achieve superior productivity under different digging profiles.

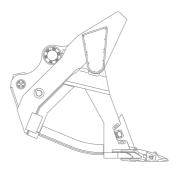
The boom and arm are strategically welded, utilizing a full-box section design to evenly distribute stress and provide ease of maintenance.

#### **LOADING SHOVEL EXCAVATING FORCE**

The Loading Shovel attachment is equipped that enhances operational efficiency.

#### **BACKHOE EXCAVATING FORCE**

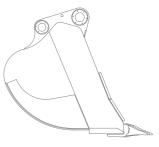
The Backhoe attachment is designed with an auto-leveling crowd mechanism using computer aided box frame analysis that controls the bucket at a constant to determine the optimal structure for angle. The EX3600-7 now has a larger integrity and longevity. Complete with 22.0 m³ (28.8 cu. yd.) bucket, designed to a floating pin and bush, the bucket has enhance loading capability with a tilt angle been designed to match the geometry of the attachment to maximize productivity.



### LOADING SHOVEL

Arm crowding force on ground 1 190 kN (121 000 kgf, 267,523 lbf.)

Bucket digging force 1 030 kN (105 000 kgf, 231,533 lbf.)



### **BACKHOE**

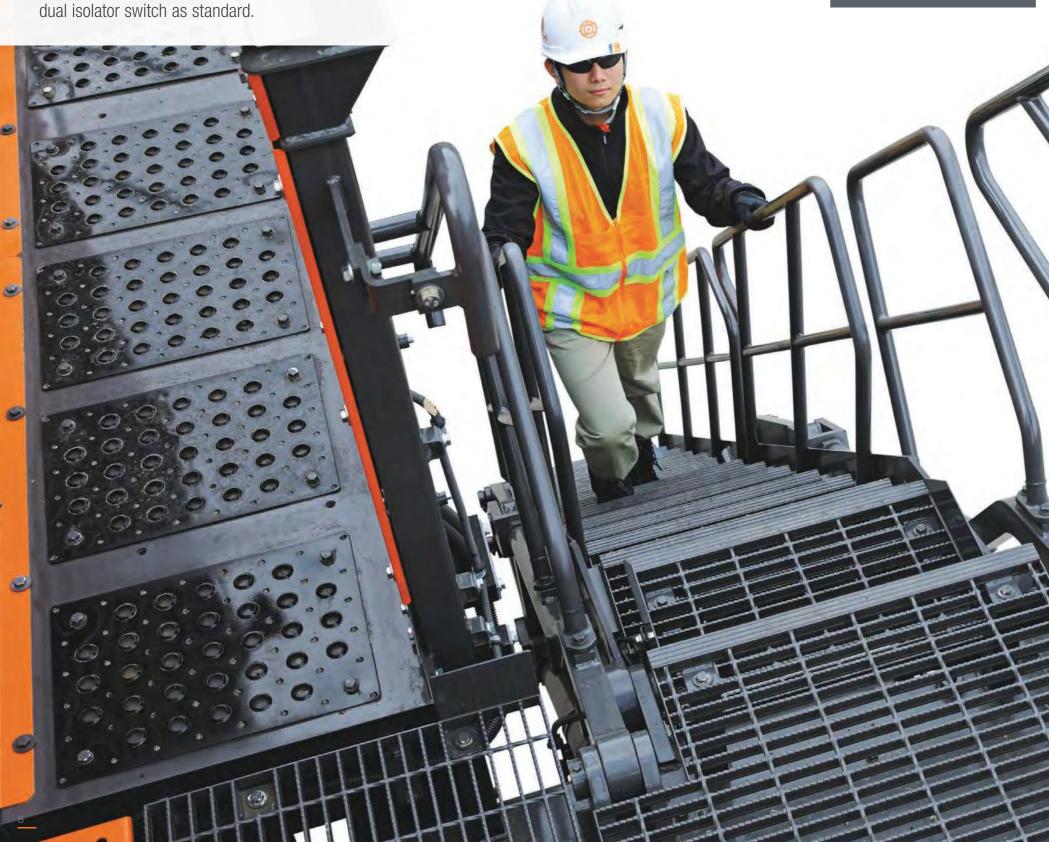
Arm crowding force 951 kN (97 000 kgf, 213,793 lbf.)

Bucket digging force 1 050 kN (107 000 kgf, 236,049 lbf.)

### SAFETY

Safety is Hitachi's ultimate priority, realized in the EX-7 series of excavators with a range of intelligent safety-focused designs.

The EX3600-7 includes spacious walkways, improved handrails, and important safety features like an on-board inclinometer and



### ACCESS AND WALKWAYS

Anti-slip walkways and specially designed handrails reduce the risk of tripping when maneuvering around the machine and provide ease of access for operators and maintenance personnel.

Wide, low-gradient, non-slip, hydraulic folding stairs allow for easy and safe access to



### **ON-BOARD INCLINOMETER**

The on-board inclinometer assists the operator to work within the safe limits of the machine, with two predetermined safety limits providing extra assurance. If the first safety limit is exceeded, the operator receives a visual alert prompting them to rear of the excavator, and are linked to take corrective action. The alert escalates to an audible alarm if the second safety limit



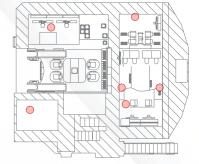
### **EMERGENCY ESCAPE CHUTE**

side of the cab for use in an emergency. providing a safe and fast route of escape one emergency stop switch in the cab. when all other means of exit are blocked.



### **PERIMETER MONITORING CAMERAS (OPTIONAL)**

Optional perimeter monitoring cameras offer better visibility of a surrounding area, reducing blind spots for the operator. Two cameras are located at both the front and monitors inside the cab.



### **ENGINE STOP SWITCHES**

An escape chute has been added to the Engine stop switches have been placed in easily accessible areas: two in the engine The chute allows evacuees to descend room, one in the pump room, one in the oil vertically down from the machine, cooler room, one in the radiator room, and



### **DUAL ISOLATOR SWITCH**

The conveniently located dual isolator switch offers the option to deactivate the engine and battery individually.

When inspections and maintenance are required, the battery isolator provides the benefit of isolating both the positive and negative terminals of the battery for a safe working environment. The engine isolator deactivates the engine starter motor while allowing battery power to the electric system for troubleshooting to enhance safety and maintainability.

### **OPERATOR COMFORT**

Hitachi's EX3600-7 maximizes productivity by giving operators complete comfort and control in the cab. Features include ergonomic layout, electronic joysticks, intelligent Multi-Functional Display, advanced air suspension seating, and better climate control to make for effortless operation.





### **CLIMATE CONTROLLED AIR CONDITIONING**

The pressurized cab's climate controlled air conditioning helps to overcome environmental extremes. Optimized filtering of interior and exterior air combined with the new flexi-vent system provides a personalized and balanced environment that meets operator demands.



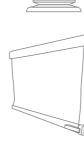
### **OPERATOR SEAT**

Specifically designed for use in the mining industry, the automatic weight-adjusting air suspension seat calculates optimal cushioning to match the operator's weight, enhancing comfort and minimizing vibration.



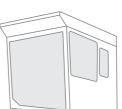
#### **ELECTRONIC JOYSTICKS**

Integrated electronic joysticks connected to the machine's microprocessor enable precise and almost effortless operation, minimizing operator fatigue and improving operational performance.



### **ROLL SCREENS**

Retractable front and side roll screens protect the operator from UV glare and reduce heat buildup in the cab, improving the efficiency of the climate controlled air conditioner for a superior operating environment.



### **OPERATOR CABIN**

The use of laminated tinted windows reduce heat and glare in the cab, while sound-suppression further enhances ergonomics and comfort for the operator.

The Level II Operator Protective Guard (OPG) provides secure protection from falling objects, ensuring operator safety.



Fitted with an LED back-light to improve clarity and reduce glare, the multi-functional display provides key machine information and performance indicators through use of an integrated dial switch interface.

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### **EASE OF MAINTENANCE**

Hitachi's EX-7 series of excavators are now easier and safer to maintain than ever before with an intuitive design. The EX3600-7 features a spacious modular layout with open passageways and work platforms to simplify daily upkeep and major component inspections.



#### **AUTO-LUBRICATION SYSTEM**

A new auto-lubrication system comes with 380 L (132.1 gal.) large capacity grease tank, new grease pump, in-line grease filter with breather, grease level indicator in cab and provision for fitment of a second grease pump in the lubrication tank. These features provide a more reliable system with less downtime.



### **GREASE-LESS CENTER JOINT**



### **LUBRICATION PIPING COVER**

The new center joint employs the A swing circle cover has been added to the machine's hydraulic oil to self-lubricate, outside of the swing bearing, protecting reducing the need for daily maintenance. the lubrication piping from debris damage.



### **CENTRALIZED LUBRICATION** SYSTEM

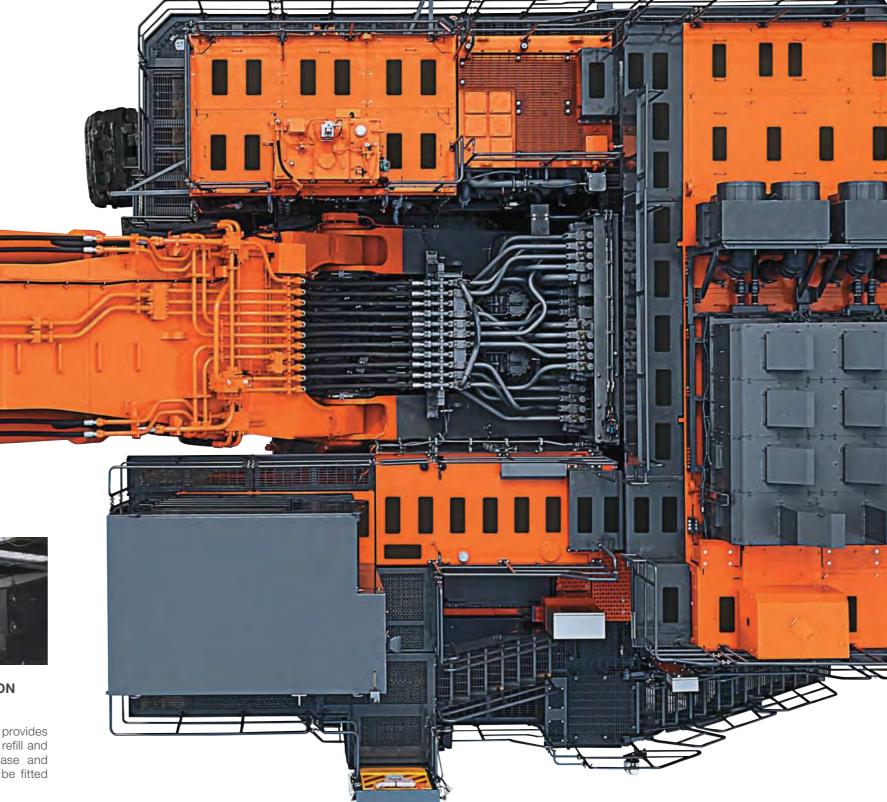
The centralized fast-filling system provides easy access from the ground to refill and evacuate lubricants, water, grease and fuel. The fast-filling system can be fitted with an optional quick coupler.

### MAINTENANCE ACCESS

Wide center walkways and open service areas offer ease of access for daily maintenance tasks and make engine, hydraulic, and electrical component inspections easy.

### **CONTAMINATION SENSORS**

Contamination sensors are located on main hydraulic pumps, travel motors and swing motors to detect any contaminants that may cause damage to the hydraulic system. Sensors alert the operator of potential contaminants and record the fault code in the Data Logging Unit (DLU) with the capability to remotely advise





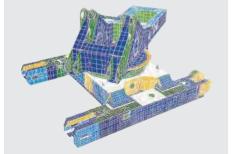
### **DURABILITY**

Hitachi's EX-7 excavators have been built to withstand the harshest mining conditions while delivering outstanding productivity. Advanced computer modelling, specialized forgings, and pedestal design track shoes are just some of the features that make the EX3600-7 one of the most durable excavators on the market.



### **STRONG MAINFRAME**

The EX3600-7 features a stronger, more durable mainframe than previous models. Stress is now more evenly dispersed across the improved frame shape, increasing machine durability and reducing downtime.



### **RIGID BOX DESIGN**

mining operation.



### **CENTER TRACK FRAME**

Computer assisted analysis has been Hitachi's exclusive center track frame used to determine the most effective delivers optimal stress dispersion through design for frame longevity, ensuring the the use of specially designed forged steel EX3600-7 withstands the demands of any parts to reduce the chance of failure in critical high-stress areas. This guarantees a stronger frame with improved durability.



### **UPPER ROLLERS**

The EX3600-7 undercarriage has three double-sided, pedestal-designed upper rollers on each side of the track frame. These rollers maintain track shoe clearance and provide protection from debris buildup, reducing shoe and roller wear for a more reliable undercarriage system.



### **OIL-FILLED ROLLERS & IDLERS**

The oil-filled idlers and upper and lower rollers eliminate the need for daily lubrication, helping reduce maintenance costs.



### TRACK SHOES

Hitachi's classic track shoe design has been applied to mitigate premature wear of the drive-lugs. Each shoe is induction hardened using Hitachi's proven methods to deliver a superior and more durable solution.



### **CENTER FRAME UNDERGUARD** (OPTIONAL)

A newly designed heavy duty guard protects hoses and accumulators located in the track center frame from rocks and debris ingress, providing extra protection and reliability.





### FRONT ATTACHMENT HOSES

Hitachi's hose design has been tested on a high cyclic fatigue rate to maximize longevity and improve safety. Front attachment hoses have been rearranged from the traditional arch style to an underslung configuration, removing the need for clamping, reducing chafing and increasing reliability.



### **CAB RISER PRESSURIZER**

The cab riser now features a pressurizer system to reduce dust infiltration, extending the service life of the electronic components and devices within.



### SOLID CONDUIT WIRE HARNESSES

Newly introduced solid conduit harnesses and junction boxes prevent dust and moisture ingress, improving longevity. Electrical harnesses between junction boxes can be replaced individually, reducing maintenance time and cost.



### **OPERATING LIGHTS**

Strategically placed long-life LED working lights provide assured reliability for night operations.



## **RELIABILITY**

Hitachi's EX-7 series is loaded with intelligent features which minimize downtime and optimize excavator longevity. The EX3600-7 is meticulously designed to provide a reliable solution every hour of the day.



### **ELECTRONIC CYLINDER STROKE CONTROL**

The new on-board electronic controller receives signals from angle sensors fitted to the main frame, boom and arm to control the pump flow rate and cylinder speed. Shock at stroke end of the cylinder cycle is reduced, improving operator comfort and lowering impact on cylinders and structures for more reliable operation.

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### **INTELLIGENCE**

Hitachi's EX-7 excavators are leading the mining industry toward smarter operations that can achieve more than ever before. On-board sensors, diagnostic tools, real-time data and intelligent software

empower mine sites to operate the EX3600-7 to its full potential.



ANTENNA (GPRS) OR SATELLITE

### **SATELLITE / GPRS COMMUNICATION (OPTIONAL)**

Standard machine information is transmitted daily through either satellite or GPRS (General Packet Radio Service) communication, sending data directly to the Hitachi Global e-Service platform to support the mining operation.

### **Globale-Service**

Global e-Service is a Hitachi web-based platform that sends vital machine information directly to the customer in a readily accessible format.

### **WIRELESS INTERFACE**

Detailed machine information can be remotely downloaded from the Data Logging Unit (DLU) via the Wireless Interface Unit (WIU), providing vital operational & performance data.





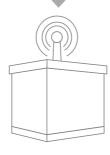
INFORMATION CENTER, HITACHI CONSTRUCTION MACHINERY



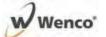
CUSTOMER



HITACHI CONSTRUCTION MACHINERY GROUP AND DEALERS



FLEET MANAGEMENT SYSTEM



The DLU can be combined with Wenco or another third party fleet management system to provide live operational and performance information, assisting with fleet management.



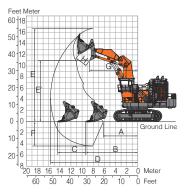
### **▲erial** Angle (OPTIONAL)

Aerial Angle provides the operator with a 360° live view around their excavator. Cameras strategically mounted on the machine generate a single aerial view of the EX3600-7 surroundings. Multiple screen display options can be selected on the cab's 12 inch Aerial Angle monitor for ease of operation.

### **SPECIFICATIONS**

### **WORKING RANGES**

#### Loading Shovel



**Bucket Capacity** 

- Minimum Digging Distance
- Minimum Level Crowding B.
- Level Crowding Distance
- Maximum Digging Reach
- Maximum Cutting Height
- E': Maximum Dumping Height
- Maximum Digging Depth
- G:
- Working Radius at Maximum Dumping Height Maximum Bucket Opening Width

Arm crowding force on

Bucket digging force

### UPPER STRUCTURE

Swing speed ...... 3.2 min<sup>-1</sup> (rpm) Fuel tank capacity .............. 7 450 L (1 639 gal.)

DEF tank capacity

22.0 m<sup>3</sup>

(28.8 cu. yd.) 6 180 mm (20 ft. 3 in.)

9 330 mm

5 080 mm (16.7 ft.)

15 660 mm

(51 ft. 5 in.) 16 750 mm ( 54 ft. 11 in.)

10 990 mm (36 ft. 1 in.) 4 350 mm (14 ft. 3 in.)

8 650 mm (28.4 ft.) 1 950 mm (6 ft. 5 in.) 1 190 kN

(121,000 kgf, 267,523 lbf) 1 030 kN

(105 000 kgf, 231,553 lbf)

(31 ft. 6 in.) 4.5 m

(14 ft. 9 in.) 22.0 m<sup>3</sup>

(28.8 cu. yd.)

18 240 mm (59 ft. 10 in.) 17 660 mm (57 ft. 11 in.)

8 630 mm (28 ft. 4 in.)

8 540 mm (28 ft.) 17 710 mm (58 ft. 1 in.) 11 540 mm (37 ft. 10 in.)

9.6 m

(30.6 ft.)

(Cummins T4F only) ....... 475 L (104.5 gal.)

### HYDRAULIC SYSTEM

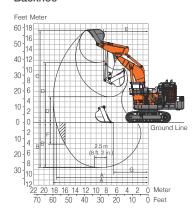
Main Pumps ..... 8 variable-displacement, axial piston pumps for front attachment, travel and swing Pressure setting ..... 29.4 MPa (300 kgf/cm<sup>2</sup>, 4 264 psi) 

### <u>UNDERCARRIAGE</u>

Travel speeds ..... High: 0 to 2.2 m/h (0 to 1.4 mph) Low: 0 to 1.7 km/h (0 to 1.1 mph)

Maximum traction force ... 1 760 kN (179 000 kgf, 395,664 lbf)

#### Backhoe



BE-boom length

BE-arm length

Bucket capacity (ISO heaped)

- Maximum Digging Reach
- Maximum Digging Reach (on around)
- Maximum Digging Depth
- Maximum Digging Depth (2.5 m (8 ft. 2 in.) level)
- C: Maximum Cutting Height
- D: Maximum Dumping Height
- D': Minimum Dumping Height
- Minimum Swing Radius
- Maximum Vertical Wall Minimum Level Crowding

Bucket Digging Force (ISO)

Arm Crowd Force (ISO)

4 960 mm (16 ft. 3 in.) 8 560 mm (28 ft. 1 in.) 4 180 mm (13.7 ft.) 6 720 mm (22 ft.) 1 050 kN (107 000 kgf, 236,049 lbf) 951 kN (97 000 kgf, 213,793 lbf)

### **WEIGHTS AND GROUND PRESSURE**

#### Loading Shovel

Equipped with 22.0 m<sup>3</sup> (28.8 cu. yd.) (ISO heaped) bottom dump bucket

Shoe width	Weight	Ground pressure
1 270 mm (50 in.)	369 000 kg (813,506 lb.)	193 kPa (1.97 kgf/cm³, 28 psi)

#### Backhoe

Equipped with 22.0 m³ (28.8 cu. yd.) (ISO heaped) bucket

Shoe width	Weight	Ground pressure		
1 270 mm (50 in.)	370 000 kg (815,710 lb.)	194 kPa (1.98 kgf/cm3, 28.1 psi)		

Cummins T4F configuration

#### ATTACHMENTS

#### Loading Shovel

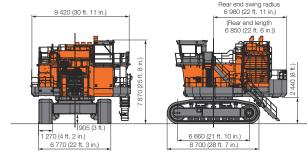
#### **Bucket Capacity (ISO heaped)**

22.0 m³ (28.8 cu. yd.): Material density 1 800 kg/m³ (3,034 lb./cu. yd.) or less 24.0 m³ (31.4 cu. yd.) : Material density 1 600 kg/m³ (2,697 lb./cu. yd.) or less

#### **Bucket Capacity (ISO heaped)**

22.0 m³ (28.8 cu. yd.) : Material density 1 800 kg/m³ (3,034 lb./cu. yd.) or less 24.0 m<sup>3</sup> (31.4 cu. yd.): Material density 1 600 kg/m<sup>3</sup> (2,697 lb./cu. yd.) or less

## **DIMENSIONS**



### **PASS MATCH**

Best match: 4-6 passes Potential match: 3-8 passes

Model		100t class truck	EH3500AC-3	EH4000AC-3	EH5000AC-3
EX2600-7	BH 17.0m <sup>3</sup> (22.2 cu. yd.)	3	6	8	
	LD 15.0m <sup>3</sup> (19.6 cu. yd.)	4	8		
EX3600-7	BH 22.0 m³(28.8 cu. yd.)	3	5	6	8
	LD 22.0 m <sup>3</sup> (28.8 cu. yd.)	3	5	7	
EX5600-7	BH 34.0m <sup>3</sup> (44.4 cu. yd.)		3	4	5
	LD 29.0m <sup>3</sup> (37.9 cu. yd.)		4	5	7

Model ...... Cummins QSKTA60-CE (FCO, T4F)

Rated power @1 800 min<sup>-1</sup>(rpm)

ISO 14396 ...... 1 450 kW (1 971 PS, 1 944 HP)

Piston displacement ....... 60.0 L (3,661 cu. in.)

Model ...... MTU 12V4000 C33 (FCO)

Rated power @1 800 min<sup>-1</sup>(rpm)

ISO 14396 ...... 1 450 kW (1 971 PS, 1 944 HP)

Piston displacement ....... 57.2 L (3,491 cu. in.)

Model ...... MTU 12V4000 C35 (T4F) Rated power @1 800 min<sup>-1</sup>(rpm)

ISO 14396 ...... 1 500 kW (2 040 PS, 2 010 HP)

Piston displacement ....... 57.2 L (3,491 cu. in.)

#### ENVIRONMENT

Auto control air conditioner contains fluorinated greenhouse gases. Refrigerant type: HFC-134a, GWP: 1430, Amount: 2.85 kg (6.3 lb.), CO2e: 4.08 tonnes (4.50 tons).

Before using a machine with a satellite communication system or telecommunication system, please make sure that the satellite communication system or telecommunication 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.