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4th Edition

Mining Performance Handbook

Technical Marketing Support Dept.
Mining Sakes and Service Div.
Mining Group
Hitachi Construction Machinery Co., Ltd.

Index

Preface

・Contents of this handbook

This handbook covers the information of Mining Products(Mining excavators and Rigid Dump Trucks) sold by HCM. If you require information about small or middle size machines, please refer to the brochure or the specification sheet of the products. This handbook covers following contents;

・The contents described in brochure
・The contents described in specification sheet.
・The contents which often to be inquired.

・Situation of using this handbook

We expect customers to use this handbook in following situation.

・Estimation of each model's production.
・Compare the models to purchase.

・ Important reminder for using this handbook and non-representation on accuracy of the Data

Data regarding performance of the Machine listed in this handbook such as production, cycle time of excavator, performance curve, etc. ("Data") are prepared based on numerical calculation from simulation and other method, measurements under certain conditions and our experience. The Data may be subject to significant change due to various factors such as job efficiency, operator skill, characteristic of digging materials, ground conditions, altitude, climate, etc., and the Data may change even if the Machine was operated under the same condition as when the Data were collected. HCM cannot and does not guarantee that the Machine will perform exactly as the Data show under any condition.

・ Reference time of the Data

The Data are current at the time of publication of this handbook, and are subject to change due to changes in machine performance, specification and/or method for measurement. HCM does not guarantee that the Data in this handbook are the most up-to-date data available. For the latest version of handbook, please contact our distributor.

Technical Marketing Support Dept.
Global Mining Div.
Hitachi Construction Machinery Co.,Ltd.

Hitachi Mining Products Line up

Excavator

Diesel Drive

EX1200-6 BH/LD	EX1200-7 BH/LD
EX1900-6 BH/LD	
EX2600-6 BH/LD	EX2600-7 BH/LD
EX3600-6 BH/LD	EX3600-7 BH/LD
EX5600-6 BH/LD	EX5600-7 BH/LD
EX8000-6 BH/LD	EX8000-7 BH/LD

Electric Drive

EX1900E-6 BH/LD
EX2600E-6 BH/LD
EX3600E-6 BH/LD
EX5600E-6 BH/LD
EX8000E-6 BH/LD

Dump Truck

AC Dump Truck

EH3500AC-3
EH4000AC-3
EH5000AC-3

Hydraulic Mining Excavator

Hydraulic Mining Excavators

EX-6 model Features

Features

Large Sized Production with the Gigantic Excavators from Hitachi. The Hitachi Giants Keep on Progressing. The Buckets Get Bigger…
Along with Enhanced Reliability and Durability. Massive Production and Power on Hand.

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.

・Powerful Engine— Ready for the task.

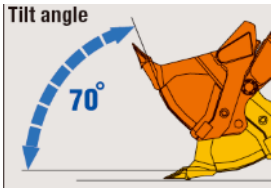
・Emission Control Engine—
Helping to protect our environment.

・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.

・High Excavating Force.

・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.

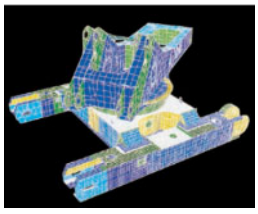


・Productivity-Boosting Auto-Leveling Mechanism—
One-lever leveling control.(Except EX8000-6)
This is another unique Hitachi function developed exclusively for more efficient leveling operations.

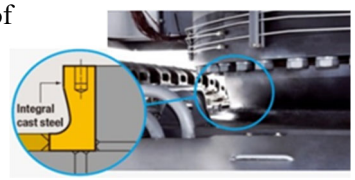
More Than Durable— Just Plain Tough

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.



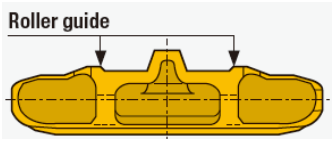
・Center Track Frame—
More strength for this key area.
The center track frame of integral cast steel structure can avoid stress concentration and increase reliability.



・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 Guard—
Help to boost durability at rugged work sites.
This design helps protect The travel motors from damage by rocks.

・Rugged Track Links—
Shoes include roller guides for extended service life.
This design has proven itself on Hitachi's popular Giant EX Series. The roller guides have been added to help extend service life.



・Constant Correct Track Tension—
Nitrogen gas accumulators absorb abnormal track tension. **※This is used for over EX1900-6 sized models**
Helps prevent abnormal track tension from causing damage. Travel is automatically stopped if accumulator pressure exceeds a preset level.

Hydraulic Mining Excavators

EX-6 model Features

Designed to Offer Comfort and Intelligence

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

・High Visibility Cab Height—
Providing a clear view of the work area.

・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.
※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.

Hydraulic Mining Excavators

EX-6 model Features

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.

・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.

・Folding Stairs with Wide Steps.
※Optional for EX1900-6. EX1200-6 have slide ladder as optional parts instead of folding stair.
Folding stairs is designed for easy access to the machine for servicing and maintenance.

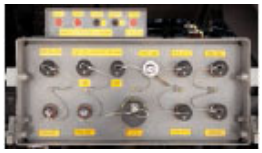
・Wide-Open Service Area—
Provides the space needed for quick and easy inspection and maintenance.
This area is conveniently located at the center of the body and provides access to the engine as well as the hydraulic and electrical systems.

・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.
※ Only EX1900-6,2600-6,3600-6 have this type of Grease Drum Can.

・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.

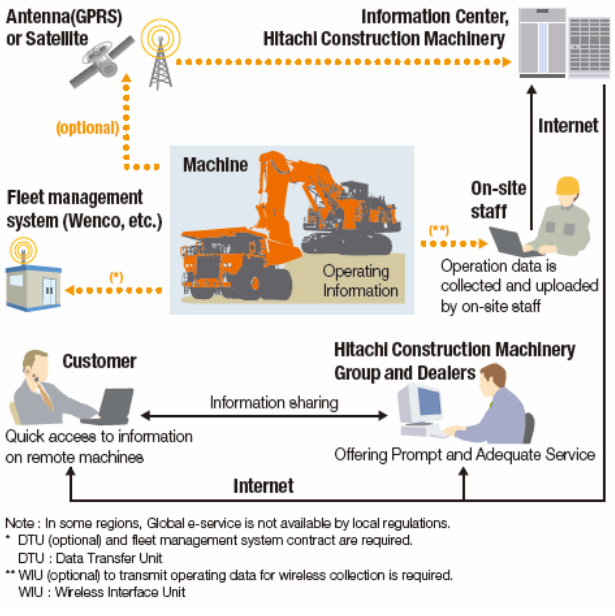
・The Centralized Lubrication System: Fast-Filling System ※Optional for EX1200-6 (only fuel line)



・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. ※Except EX1200-6
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

Hydraulic Mining Excavators

EX-7 model Features

designed for SUSTAINABILITY

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

▪ENGINE OPTIONS

Engine manufacture:

EX1200-7:Cummins only

Over EX2600-7 model: Cummins and MTU

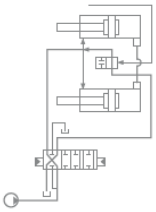
Emission certificate:

U.S. EPA Tier 4 Final confirming and Fuel Consumption Optimization (FCO)

▪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.

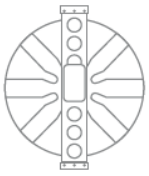
▪HYDRAULIC REGENERATION CIRCUIT



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.

***EX1200-7:Boom,arm,and bucket regeneration**
OverEX2600-7 model :Boom regeneration

▪HYDRAULIC OIL COOLER SYSTEM



A redesigned 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 keep hydraulic oil cool more effectively. Time and effort spent cleaning is drastically reduced, and service life of hydraulics is extended.

▪RADIATOR FAN MOTOR (EX1200-7)

The radiator fan is now driven by a hydraulic system, replacing the previous mechanical drive system. The fan automatically adjusts to meet engine requirements, creating an optimized cooling system with less horsepower demand and less operational noise.

▪HYDRAULIC OIL COOLER(Over EX2600-7 model)

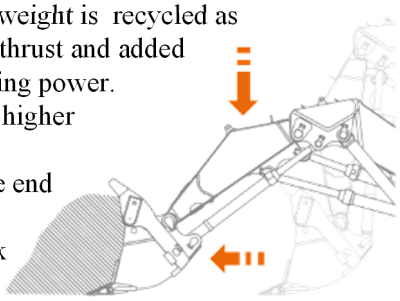
A larger hydraulic oil cooler with variable speed fan reduces energy demand and creates a more reliable hydraulic system. The oil cooler is kept separate from the radiator to effectively reduce hydraulic oil temperatures, increase hydraulic service life, and improve maintainability.

designed for 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.

▪AUTO-LEVELING MECHANISM FOR LOADER APPLICATION(Except EX8000-7)

The control of both the arm and boom is achieved through a Hitachi proprietary leveling cylinder mechanism, using just one arm lever. This means the bucket can automatically be pushed out Horizontally using a single movement. Potential energy created from the front weight is recycled as level cylinder thrust and added to the arm digging power. This allows for higher digging power, especially at the end of a stroke, improving work performance.



Hydraulic Mining Excavators

EX-7 model Features

designed for SAFETY

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

・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.

・ON-BOARD INCLINOMETER(Over EX2600-7 model)

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 take corrective action. The alert escalates to an audible alarm if the second safety limit is breached.

・EMERGENCY ESCAPE CHUTE(Over EX2600-7 model)

An escape chute has been added to the side of the cab for use in an emergency. The chute allows evacuees to descend vertically down from the machine, providing a safe and fast route of escape when all other means of exit are blocked.

designed for DURABILITY

Hitachi's EX-7 excavators have been built to withstand the harshest mining conditions while delivering outstanding productivity.

・TRACK SHOES (EX1200-7)

Improved Hitachi track link design mitigates premature failure of the master pin, increasing durability.

・CENTER FRAME UNDERGUARD(Option)

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

designed for RELIABILITY

Hitachi's EX-7 series is loaded with intelligent features which minimize downtime and optimize excavator longevity.

・FRONT ATTACHMENT HOSES

Hitachi's hose design is based on a cyclic fatigue rate to maximize longevity and improve safety. Front attachment hoses have been rearranged from the traditional arch style to an underslung configuration to remove the need for clamping, reduce chafing and increase reliability.

・CAB RISER PRESSURIZER(Over EX2600-7 model)

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(Over EX2600-7 model)

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.

・ELECTRONIC CYLINDER STROKE CONTROL(Over EX2600-7 model)

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.

Hydraulic Mining Excavators

EX-7 model Features

designed for EASE OF MAINTENANCE

Hitachi's EX-7 series of excavators are now easier and safer to maintain than ever before with an intuitive design.

・LUBRICATION PIPING COVER(for over EX2600-7 model)

A swing circle cover has been added to the outside of the swing bearing, protecting the lubrication piping from debris damage.

・GREASE-LESS CENTER JOINT

The redesigned center joint employs the machine's hydraulic oil to self-lubricate, reducing the need for daily maintenance.

・AUTO-LUBRICATION SYSTEM(Option for EX1200-7,Standard for over EX2600-7 model)

A new auto-lubrication system comes with 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.

・CONTAMINATION SENSORS(Option for EX1200-7, standard for over EX2600-7 model)

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

・REVERSE FANS (EX1200-7)

Radiator and oil cooler fans can be reversed to eject dust on cores and screens. This reduces the need for labor-intensive maintenance and extends the life of components.

designed for OPERATOR CONTROL

Intuitive and advanced features empower the operator to personalize and streamline their work environment for improved workflow and better productivity.

・MULTI-FUNCTIONAL DISPLAY

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.

・POWER BOOST SWITCH (EX1200-7)

When digging in hard rock environments, Power Boost Switch can be temporarily activated to increase pump pressure and maximize hydraulic power in the front attachment.

designed for OPERATOR COMFORT

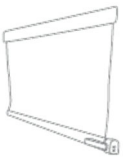
Hitachi's EX-7 excavators are designed to work around the clock in often challenging conditions, so a comfortable operating environment is essential

・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.

・ROLL SCREENS (Option for EX1200-7,standard for over EX2600-7 model)

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



Aerial Angle (option)

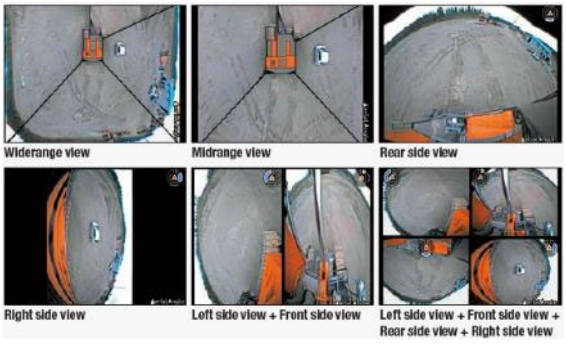
Hitachi Hydraulic Excavator with Peripheral Vision Support System.(EX1900-6～EX8000-6 and all EX-7 models)

・Camera Monitor

A camera monitor for Aerial Angle is located on the left-front pillar of the cab. A Screen Changeover Switch is located on the right hand side of the monitor.

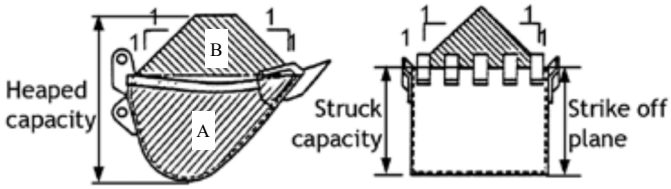
・Locations of the Cameras & Viewing Angles

The Aerial Angle feature is available to significantly increase peripheral vision around the hydraulic excavator by providing synthesized multiple images captured by cameras specifically positioned at 4 locations around the excavator. The feature displays camera views on a single monitor to allow operators an auxiliary means of checking for ground level obstacles.



Bucket Capacity

Bucket capacity is rated by using heaped capacity and struck capacity. At present, heaped capacity is widely used.



(1). Struck capacity (A)

Struck capacity is defined as the volume bounded by the inside bucket contour without consideration for material supported or carried by spill guard or on bucket teeth.

(2). Heaped capacity (A + B)

Heaped capacity is defined as the volume in the bucket under the strike off plane, plus that of the heaped material above the strike off plane with an angle of repose of 1:1 or 1:2, without consideration for material supported or carried by the spill guard or bucket teeth.

At present, there are different standards to define the heaped capacity of a hoe bucket, causing confusion. This is chiefly attributed to the difference in defining the angle of repose.

On the contrary, for a loader/loading shovel bucket, almost the same definitions are employed.

(3). Standards

There are various standards for designating the heaped capacity of bucket. The principal difference among these definitions is the “angle of repose”, as listed in the table below.

Standard / Bucket type	ISO	SAE	JIS	CECE	PCSA
Backhoe bucket	1:1	1:1	1:1	1:2	1:1
Loader bucket	1:2	1:2	1:2	1:2	1:2

Then, the standards of backhoe which HCM described on brochure are “SAE,PCSA heaped”.

ISO 7451: Earth-moving machinery – Volumetric ratings for hoe-type and grab-type buckets of hydraulic excavators and backhoe loaders
ISO 7546: Earth-moving machinery – Loader and front loading excavator buckets - Volumetric ratings
SAE J296: Excavator, Mini-excavator, and Backhoe Hoe Bucket Volumetric Rating (Cancelled 1999)
SAE J742: Capacity Rating – Loader Bucket (Cancelled 2000, Superseded by ISO 7546)
JIS A 8403-4: Earth-moving machinery – Hydraulic excavators – Part 4: Bucket volumetric ratings
JIS A 8421-3: Earth-moving machinery – Loaders – Part 3: Bucket volumetric ratings CECE Section V:
PCSA No. 3:

ISO: International Organization for Standardization
SAE: Society of Automotive Engineers
JIS: Japanese Industrial Standards
CECE: Committee for European Construction Equipment
PCSA: Power Crane and Shovel Association

Note: This information may be subject to change without prior notice.

Hydraulic Mining Excavators Specifications ・Backhoe Configuration

Model	EX1200-6	EX1200-7	EX1900-6
Operating weight	111000kg*	117000kg**	192000kg*
Bucket Range (ISO 7451 Heaped 1:1)	5.2-6.7m^3	5.2-7.0m^3	4.4-12.0m^3
Engine			
Number of Engines	1	1	1
Engine manufacture	Cummins	Cummins	Cummins
Engine model	QSK23-C	QSK23-C	QSKTA38-CE
Rated power @1 800 min^{-1} (rpm) ISO14396	567kW (760HP)	567kW (760HP)	810kW (1086HP)
Piston displacement	23.15L	23.15L	37.8L
No. of cylinder	6	6	12
Emission certification	U.S.EPA Tier II	FCO T4F	U.S.EPA Tier II
Hydraulic system			
Max.oil flow	3×520L/min	3×520L/min	6×335L/min
Relief Valve Settings:			
Implement Circuits (attachment)	31.9MPa(325kgf/cm^2)	31.9MPa(325kgf/cm^2)	29.4MPa(300kgf/cm^2)
Swing Circuits	27.4MPa(280kgf/cm^2)	27.9MPa(280kgf/cm^2)	29.4MPa(300kgf/cm^2)
Travel Circuits	34.3MPa(350kgf/cm^2)	34.3MPa(350kgf/cm^2)	29.4MPa(300kgf/cm^2)
Pilot Circuits	3.9MPa(40kgf/cm^2)	4.4MPa(45kgf/cm^2)	4.4MPa(45kgf/cm^2)
Fuel Tank Capacity	1470L	1700L	4140L
Hydraulic Oil System	1350L	1350L	2200L
Hydraulic Oil Tank	610L	648L	1050L
Upperstructure			
Bucket digging Force ISO	482kN(49200kgf)	482kN(49200kgf)*	671kN(68400kgf)
Arm crowd Force ISO	430kN(43900kgf)	430kN(43900kgf)*	620kN(63200kgf)
Max. Swing speed	5.2min^{-1}(rpm)	5.2min^{-1}(rpm)	4.7min^{-1}(rpm)
Undercarriage			
Travel speeds:			
High	0 to 3.5km/h	0 to 3.5km/h	0 to 2.8km/h
Low	0 to 2.4km/h	0 to 2.4km/h	0 to 2.1km/h
Standard shoe width	700mm	700mm	800mm

* Standard front configuration
** U.S.EPA Tier 4 Final, Standard front configuration
FCO: Fuel consumption optimized
T4F: U.S.EPA Tier 4 Final

Hydraulic Mining Excavators Specifications ·Backhoe Configuration

Model	EX2600-6	EX2600-7			
Operating weight	254000kg*	257000kg**			
Bucket Range (ISO 7451 Heaped 1:1)	17.0m^3	17.0m^3			
Engine					
Number of Engines	1	1			
Engine manufacture	Cummins	Cummins		MTU	
Engine model	QSKTA50-CE	QSKTA50-CE		12V 4000 C13R	12V 4000 C15
Rated power @1 800 min^{-1} (rpm) ISO14396	1119KW (1500HP)	1119KW (1500HP)		1150KW (1542HP)	
Piston displacement	50.0L	50.0L		57.2L	
No. of cylinder	16	16		12	
Emission certification	U.S.EPA Tier II	FCO	T4F	FCO	T4F
Hydraulic system					
Max.oil flow	4×375L/min, 2×425L/min	4×375L/min, 2×425L/min			
Relief Valve Settings:					
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)			
Swing Circuits	27.4MPa(280kgf/cm^2)	27.4MPa(280kgf/cm^2)			
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)			
Pilot Circuits	3.9MPa(40kgf/cm^2)	4.0MPa(41kgf/cm2)			
Fuel Tank Capacity	5300L	5300L			
Hydraulic Oil System	3170L	3170L			
Hydraulic Oil Tank	1320L	1320L			
Upperstructure					
Bucket digging Force ISO	830kN(84600kgf)	830kN(84600kgf)			
Arm crowd Force ISO	785kN(80000kgf)	785kN(80000kgf)			
Max. Swing speed	3.8min^{-1}(rpm)	4.1min^{-1}(rpm)			
Undercarriage					
Travel speeds:					
High	0 to 2.3km/h	0 to 2.3km/h			
Low	0 to 1.6km/h	0 to 1.6km/h			
Standard shoe width	1000mm	1000mm			

* BE-front configuration
** U.S.EPA Tier 4 Final, BE-front configuration
FCO: Fuel consumption optimized
T4F: U.S.EPA Tier 4 Final

Hydraulic Mining Excavators Specifications ·Backhoe Configuration

Model	EX3600-6	EX3600-7			
Operating weight	359000kg*	370000kg**			
Bucket Range (ISO 7451 Heaped 1:1)	22.0m^3	22.0m^3			
Engine					
Number of Engines	1	1			
Engine manufacture	Cummins	Cummins		MTU	
Engine model	QSKTA60-CE	Cummins QSKTA60-CE		12V 4000 C33	12V 4000 C35
Rated power @1 800 min^{-1} (rpm) ISO14396	1450kW (1944HP)	1450kW (1944HP)		1450KW (1944HP)	1500KW (2011HP)
Piston displacement	60.0L	60.0L		57.2L	
No. of cylinder	16	16		12	
Emission certification	U.S.EPA Tier II	FCO	T4F	FCO	T4F
Hydraulic system					
Max.oil flow	8 × 500L/min	8 × 500L/min			
Relief Valve Settings:					
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)			
Swing Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)			
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)			
Pilot Circuits	3.9MPa(45kgf/cm^2)	4.0MPa(41kgf/cm2)			
Fuel Tank Capacity	7450L	7450L			
Hydraulic Oil System	4000L	4000L			
Hydraulic Oil Tank	1900L	1900L			
Upperstructure					
Bucket digging Force ISO	1050kN(107000kgf)	1050kN(107000kgf)			
Arm crowd Force ISO	951kN(97000kgf)	951kN(97000kgf)			
Max. Swing speed	3.2min^{-1}(rpm)	3.2min^{-1}(rpm)			
Undercarriage					
Travel speeds:					
High	0 to 2.2km/h	0 to 2.2km/h			
Low	0 to 1.7km/h	0 to 1.7km/h			
Standard shoe width	1270mm	1270mm			

* BE-front configuration
** U.S.EPA Tier 4 Final, BE-front configuration
FCO: Fuel consumption optimized
T4F: U.S.EPA Tier 4 Final

Hydraulic Mining Excavators Specifications ·Backhoe Configuration

Model	EX5600-6	EX5600-7			
Operating weight	537000kg*	549000kg**			
Bucket Range (ISO 7451 Heaped 1:1)	34.0m^3	34.0m3			
Engine					
Number of Engines	2	2			
Engine manufacture	Cummins	Cummins		MTU	
Engine model	QSKTA50-CE	QSKTA50-CE		12V 4000 C13R	12V 4000 C15
Rated power @1 800 min^{-1} (rpm) ISO14396	2×1119KW (1500HP)	2×1119KW (1500HP)		2×1150KW (1542HP)	
Piston displacement	2×50.0L	2×50.0L		2×57.2L	
No. of cylinder	2×16	2×16		2×12	
Emission certification	U.S.EPA Tier II	FCO	T4F	FCO	T4F
Hydraulic system					
Max.oil flow	8×375L/min, 4×425L/min	8×375L/min, 4×425L/min			
Relief Valve Settings:					
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm2)			
Swing Circuits	24.5MPa(250kgf/cm^2)	24.5MPa(250kgf/cm2)			
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm2)			
Pilot Circuits	3.9MPa(40kgf/cm^2)	4.0MPa(41kgf/cm2)			
Fuel Tank Capacity	11300L	11300L			
Hydraulic Oil System	6200L	6200L			
Hydraulic Oil Tank	2200L	2200L			
Upperstructure					
Bucket digging Force ISO	1480kN(151000kgf)	1480kN(151000kgf)			
Arm crowd Force ISO	1300kN(133000kgf)	1300kN(133000kgf)			
Max. Swing speed	3.3min^{-1}(rpm)	3.3min^{-1}(rpm)			
Undercarriage					
Travel speeds:					
High	0 to 2.3km/h	0 to 2.3km/h			
Low	0 to 1.6km/h	0 to 1.6km/h			
Standard shoe width	1400mm	1400mm			

* BE-front configuration
** U.S.EPA Tier 4 Final, BE-front configuration
FCO: Fuel consumption optimized
T4F: U.S.EPA Tier 4 Final

Hydraulic Mining Excavators Specifications ·Backhoe Configuration

Model	EX8000-6	EX8000-7			
Operating weight	837000kg*	842000kg**			
Bucket Range (ISO 7451 Heaped 1:1)	43.0-48.0m^3	43.0-48.0m3			
Engine					
Number of Engines	2	2			
Engine manufacture	Cummins	Cummins		MTU	
Engine model	QSKTA60-CE	QSKTA60-CE		12V 4000 C33	12V 4000 C35
Rated power @1 800 min^{-1} (rpm) ISO14396	2 × 1450kW(1944HP)	2 × 1450kW (1944HP)		2 × 1450KW (1944HP)	2 × 1500KW (2011HP)
Piston displacement	2 × 60.0L	2 × 60.0L		2 × 57.2L	
No. of cylinder	2 × 16	2 × 16		2 × 12	
Emission certification	U.S.EPA Tier II	FCO	T4F	FCO	T4F
Hydraulic system					
Max.oil flow	16 × 500L/min	16 × 500L/min			
Relief Valve Settings:					
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm2)			
Swing Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm2)			
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm2)			
Pilot Circuits	4.4MPa(45kgf/cm^2)	4.0MPa(41kgf/cm2)			
Fuel Tank Capacity	14900L	14900L			
Hydraulic Oil System	9700L	9700L			
Hydraulic Oil Tank	3890L	3890L			
Upperstructure					
Bucket digging Force ISO	2020kN(206000kgf)	2020kN(206000kgf)			
Arm crowd Force ISO	1770kN(180700kgf)	1770kN(180700kgf)			
Max. Swing speed	3.9min^{-1}(rpm)	3.9min^{-1}(rpm)			
Undercarriage					
Travel speeds:					
High	0 to 2.0km/h	0 to 2.0km/h			
Low	0 to 1.4km/h	0 to 1.4km/h			
Standard shoe width	1850mm	1850mm			

* BE-front configuration
** U.S.EPA Tier 4 Final, BE-front configuration
FCO: Fuel consumption optimized
T4F: U.S.EPA Tier 4 Final

Hydraulic Mining Excavators

Specifications
・Backhoe Configuration with electric Drive

Model	EX1900E-6	EX2600E-6	EX3600E-6
Power output	610kW	860kW	1200kW
Operating weight	191000*	250000**	350000**
Bucket Range (ISO 7451 Heaped 1:1)	4.4-12.0m^3	17.0m^3	22.0m^3
Electric motor			
Type	HITACHI TFOA-KK	HITACHI TFOA-KK	HITACHI TFOA-KK
Number of Motors	1	1	1
Voltage	AC6000V/50Hz AC6600V/50Hz AC6600V/60Hz AC7200V/60Hz	AC6000V/50Hz AC6600V/50Hz AC6600V/60Hz AC7200V/60Hz	AC6000V/50Hz AC6600V/50Hz AC6600V/60Hz AC7200V/60Hz
Synchronous RPM	1500min^{-1}/50Hz	1500min^{-1}/50Hz	1500min^{-1}/50Hz
	1800min^{-1}/60Hz	1800min^{-1}/60Hz	1800min^{-1}/60Hz
Rated Current	69A@6600V	92A@6600V	124A@6600V
Insulation current	F class B raise	F class B raise	F class B raise
Hydraulic system			
Max.oil flow	6×335L/min	4×375L/min,2×425L/min	8×500L/min
Relief Valve Settings:			
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)
Swing Circuits	29.4MPa(300kgf/cm^2)	27.4MPa(280kgf/cm^2)	29.4MPa(300kgf/cm^2)
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)
Pilot Circuits	4.4MPa(45kgf/cm^2)	3.9MPa(40kgf/cm^2)	3.9MPa(45kgf/cm^2)
Hydraulic Oil System	2200L	3170L	4000L
Hydraulic Oil Tank	1050L	1320L	1900L
Upperstructure			
Bucket digging Force ISO	671kN(68400kgf)	830kN(84600kgf)	1050kN(107000kgf)
Arm crowd Force ISO	620kN(63200kgf)	785kN(80000kgf)	951kN(97000kgf)
Max. Swing speed	4.7min^{-1}(rpm)	3.8min^{-1}(rpm)	2.9min^{-1}(rpm)
Undercarriage			
Travel speeds:			
High	0 to 2.8km/h	0 to 2.2km/h	0 to 2.1km/h
Low	0 to 2.1km/h	0 to 1.5km/h	0 to 1.6km/h
Standard shoe width	800mm	1000mm	1270mm

* Standard front configuration
** BE-front configuration

Hydraulic Mining Excavators

Specifications
・Backhoe Configuration with electric Drive

Model	EX5600E-6	EX8000E-6
Power output	860 × 2kW	1200 × 2kW
Operating weight	531000**	820000**
Bucket Range (ISO 7451 Heaped 1:1)	34.0m^3	43-48m^3
Electric motor		
Type	HITACHI TFOA-KK	HITACHI TFOA-KK
Number of Motors	2	2
Voltage	AC6000V/50Hz AC6600V/50Hz AC6600V/60Hz AC7200V/60Hz	AC6000V/50Hz AC6600V/50Hz AC6600V/60Hz AC7200V/60Hz
Synchronous RPM	1500min^{-1}/50Hz	1500min^{-1}/50Hz
	1800min^{-1}/60Hz	1800min^{-1}/60Hz
Rated Current	97A × 2@6600V	124A × 2@6600V
Insulation current	F class B raise	F class B raise
Hydraulic system		
Max.oil flow	8 × 375L/min,4 × 425L/min	16 × 500L/min
Relief Valve Settings:		
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)
Swing Circuits	24.5MPa(250kgf/cm^2)	29.4MPa(300kgf/cm^2)
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)
Pilot Circuits	3.9MPa(40kgf/cm^2)	4.4MPa(45kgf/cm^2)
Hydraulic Oil System	6200L	9700L
Hydraulic Oil Tank	2200L	3890L
Upperstructure		
Bucket digging Force ISO	1480kN(151000kgf)	2020kN(206000kgf)
Arm crowd Force ISO	1300kN(133000kgf)	1770kN(180700kgf)
Max. Swing speed	3.3min^{-1}(rpm)	3.5min^{-1}(rpm)
Undercarriage		
Travel speeds:		
High	0 to 2.3km/h	0 to 1.9km/h
Low	0 to 1.6km/h	0 to 1.3km/h
Standard shoe width	1400mm	1850mm

* Standard front configuration
** BE-front configuration

Hydraulic Mining Excavators Specifications ·Loading shovel Configuration

Model	EX1200-6	EX1200-7	EX1900-6
Operating weight	114000kg	118000kg*	191000kg
Bucket Range (ISO 7546 Heaped 2:1)	5.9-6.5m^3	5.9-6.5m^3	8.8-12.0m^3
Engine			
Number of Engines	1	1	1
Engine manufacture	Cummins	Cummins	Cummins
Engine model	QSK23-C	QSK23-C	QSKTA38-CE
Rated power @1 800 min^{-1} (rpm) ISO14396	567kW (760HP)	567kW (760HP)	810kW (1086HP)
Piston displacement	23.15L	23.15L	37.8L
No. of cylinder	6	6	12
Emission certification	U.S.EPA Tier II	FCO T4F	U.S.EPA Tier II
Hydraulic system			
Max.oil flow	3×520L/min	3×520L/min	6×335L/min
Relief Valve Settings:			
Implement Circuits (attachment)	31.9MPa(325kgf/cm^2)	31.9MPa(325kgf/cm^2)	29.4MPa(300kgf/cm^2)
Swing Circuits	27.4MPa(280kgf/cm^2)	27.9MPa(280kgf/cm^2)	29.4MPa(300kgf/cm^2)
Travel Circuits	34.3MPa(350kgf/cm^2)	34.3MPa(350kgf/cm^2)	29.4MPa(300kgf/cm^2)
Pilot Circuits	3.9MPa(40kgf/cm^2)	4.4MPa(45kgf/cm^2)	4.4MPa(45kgf/cm^2)
Fuel Tank Capacity	1470L	1700L	4140L
Hydraulic Oil System	1350L	1350L	2200L
Hydraulic Oil Tank	610L	648L	1050L
Upperstructure			
Bucket digging Force	709kN(72300kgf)	709kN(72300kgf)	754kN(76900kgf)
Arm crowding force on ground	585kN(59700kgf)	585kN(59700kgf)	720kN(73500kgf)
Max. Swing speed	5.2min^{-1}(rpm)	5.2min^{-1}(rpm)	4.7min^{-1}(rpm)
Undercarriage			
Travel speeds:			
High	0 to 3.5km/h	0 to 3.5km/h	0 to 2.8km/h
Low	0 to 2.4km/h	0 to 2.4km/h	0 to 2.1km/h
Standard shoe width	700mm	700mm	800mm

*: U.S.EPA Tier 4 Final,
FCO: Fuel consumption optimized
T4F: U.S.EPA Tier 4 Final

Hydraulic Mining Excavators Specifications ·Loading shovel Configuration

Model	EX2600-6	EX2600-7			
Operating weight	252000kg	259000kg*			
Bucket Range (ISO 7546 Heaped 2:1)	15.0-16.5m^3	15.0-16.5m^3			
Engine					
Number of Engines	1	1			
Engine manufacture	Cummins	Cummins		MTU	
Engine model	QSKTA50-CE	QSKTA50-CE		12V 4000 C13R	12V 4000 C15
Rated power @1 800 min^{-1} (rpm) ISO14396	1119KW (1500HP)	1119KW (1500HP)		1150KW (1542HP)	
Piston displacement	50.0L	50.0L		57.2L	
No. of cylinder	16	16		12	
Emission certification	U.S.EPA Tier II	FCO	T4F	FCO	T4F
Hydraulic system					
Max.oil flow	4×375L/min, 2×425L/min	4×375L/min, 2×425L/min			
Relief Valve Settings:					
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)			
Swing Circuits	27.4MPa(280kgf/cm^2)	27.4MPa(280kgf/cm^2)			
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)			
Pilot Circuits	3.9MPa(40kgf/cm^2)	4.0MPa(41kgf/cm2)			
Fuel Tank Capacity	5300L	5300L			
Hydraulic Oil System	3170L	3170L			
Hydraulic Oil Tank	1320L	1320L			
Upperstructure					
Bucket digging Force	943kN(96200kgf)	943kN(96200kgf)			
Arm crowding force on ground	918kN(93600kgf)	918kN(93600kgf)			
Max. Swing speed	3.8min^{-1}(rpm)	4.1min^{-1}(rpm)			
Undercarriage					
Travel speeds:					
High	0 to 2.3km/h	0 to 2.3km/h			
Low	0 to 1.6km/h	0 to 1.6km/h			
Standard shoe width	1000mm	1000mm			

*: U.S.EPA Tier 4 Final
FCO: Fuel consumption optimized
T4F: U.S.EPA Tier 4 Final

Hydraulic Mining Excavators Specifications ·Loading shovel Configuration

Model	EX3600-6	EX3600-7			
Operating weight	362000kg	369000kg*			
Bucket Range (ISO 7546 Heaped 2:1)	21.0-23.0m^3	22.0m^3			
Engine					
Number of Engines	1	1			
Engine manufacture	Cummins	Cummins		MTU	
Engine model	QSKTA60-CE	QSKTA60-CE		12V 4000 C33	12V 4000 C35
Rated power @1 800 min^{-1} (rpm) ISO14396	1450kW (1944HP)	1450kW (1944HP)		1450KW (1944HP)	1500KW (2011HP)
Piston displacement	60.0L	60.0L		57.2L	
No. of cylinder	16	16		12	
Emission certification	U.S.EPA Tier II	FCO	T4F	FCO	T4F
Hydraulic system					
Max.oil flow	8 × 500L/min	8 × 500L/min			
Relief Valve Settings:					
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)			
Swing Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)			
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)			
Pilot Circuits	4.4MPa(45kgf/cm^2)	4.0MPa(41kgf/cm2)			
Fuel Tank Capacity	7450L	7450L			
Hydraulic Oil System	4000L	4000L			
Hydraulic Oil Tank	1900L	1900L			
Upperstructure					
Bucket digging Force	1166kN(119000kgf)	1030kN(97000kgf)			
Arm crowding force on ground	1108kN(113000kgf)	1190kN(155000kgf)			
Max. Swing speed	3.2min^{-1}(rpm)	3.2min^{-1}(rpm)			
Undercarriage					
Travel speeds:					
High	0 to 2.2km/h	0 to 2.2km/h			
Low	0 to 1.7km/h	0 to 1.7km/h			
Standard shoe width	1270mm	1270mm			

*: U.S.EPA Tier 4 Final
FCO: Fuel consumption optimized
T4F: U.S.EPA Tier 4 Final

Hydraulic Mining Excavators Specifications ·Loading shovel Configuration

Model	EX5600-6	EX5600-7			
Operating weight	533000kg	544000kg*			
Bucket Range (ISO 7546 Heaped 2:1)	27.0-29.0m^3	27.0-29.0m3			
Engine					
Number of Engines	2	2			
Engine manufacture	Cummins	Cummins		MTU	
Engine model	QSKTA50-CE	QSKTA50-CE		12V 4000 C13R	12V 4000 C15
Rated power @1 800 min^{-1} (rpm) ISO14396	2×1119KW (1500HP)	2×1119KW (1500HP)		2×1150KW (1542HP)	
Piston displacement	2×50.0L	2×50.0L		2×57.2L	
No. of cylinder	2×16	2×16		2×12	
Emission certification	U.S.EPA Tier II	FCO	T4F	FCO	T4F
Hydraulic system					
Max.oil flow	8×375L/min, 4×425L/min	8×375L/min ,4×425L/min			
Relief Valve Settings:					
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm2)			
Swing Circuits	29.4MPa(300kgf/cm^2)	24.5MPa(250kgf/cm2)			
Travel Circuits	24.5MPa(250kgf/cm^2)	29.4MPa(300kgf/cm2)			
Pilot Circuits	3.9MPa(40kgf/cm^2)	4.0MPa(41kgf/cm2)			
Fuel Tank Capacity	11300L	11300L			
Hydraulic Oil System	6200L	6200L			
Hydraulic Oil Tank	2200L	2200L			
Upperstructure					
Bucket digging Force	1590kN(162000kgf)	1590kN(162000kgf)			
Arm crowding force on ground	1520kN(155000kgf)	1520kN(155000kgf)			
Max. Swing speed	3.3min^{-1}(rpm)	3.3min^{-1}(rpm)			
Undercarriage					
Travel speeds:					
High	0 to 2.3km/h	0 to 2.3km/h			
Low	0 to 1.6km/h	0 to 1.6km/h			
Standard shoe width	1400mm	1400mm			

*: U.S.EPA Tier 4 Final
FCO: Fuel consumption optimized
T4F: U.S.EPA Tier 4 Final

Hydraulic Mining Excavators Specifications ·Loading shovel Configuration

Model	EX8000-6	EX8000-7			
Operating weight	825000kg	830000kg*			
Bucket Range (ISO 7546 Heaped 2:1)	40.0-43.0m^3	43.0m3			
Engine					
Number of Engines	2	2			
Engine manufacture	Cummins	Cummins		MTU	
Engine model	QSKTA60-CE	QSKTA60-CE		12V 4000 C33	12V 4000 C35
Rated power @1 800 min^{-1} (rpm) ISO14396	2 × 1450kW(1944HP)	2 × 1450kW (1944HP)		2 × 1450KW (1944HP)	2 × 1500KW (2011HP)
Piston displacement	2 × 60.0L	2 × 60.0L		2 × 57.2L	
No. of cylinder	2 × 16	2 × 16		2 × 12	
Emission certification	U.S.EPA Tier II	FCO	T4F	FCO	T4F
Hydraulic system					
Max.oil flow	16 × 500L/min	16 × 500L/min			
Relief Valve Settings:					
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm2)			
Swing Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm2)			
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm2)			
Pilot Circuits	4.4MPa(45kgf/cm^2)	4.0MPa(41kgf/cm2)			
Fuel Tank Capacity	14900L	14900L			
Hydraulic Oil System	9700L	9700L			
Hydraulic Oil Tank	3890L	3890L			
Upperstructure					
Bucket digging Force	2400kN(245000kgf)	2230kN(2274000kgf)			
Arm crowding force on ground	2870kN(293000kgf)	2420kN(246800kgf)			
Max. Swing speed	3.2min^{-1}(rpm)	3.9min^{-1}(rpm)			
Undercarriage					
Travel speeds:					
High	0 to 2.0km/h	0 to 2.0km/h			
Low	0 to 1.4km/h	0 to 1.4km/h			
Standard shoe width	1850mm	1850mm			

*: U.S.EPA Tier 4 Final
FCO: Fuel consumption optimized
T4F: U.S.EPA Tier 4 Final

Hydraulic Mining Excavators

Specifications
・Loading shovel Configuration with electric Drive

Model	EX1900E-6	EX2600E-6	EX3600E-6
Power output	610kW	860kW	1200kW
Operating weight	190000kg	248000kg	353000kg
Bucket Range (ISO 7546 Heaped 2:1)	8.8-12.0m^3	15.0-16.5m^3	21.0-23.0m^3
Electric motor			
Type	HITACHI TFOA-KK	HITACHI TFOA-KK	HITACHI TFOA-KK
Number of Motors	1	1	1
Voltage	AC6000V/50Hz AC6600V/50Hz AC6600V/60Hz AC7200V/60Hz	AC6000V/50Hz AC6600V/50Hz AC6600V/60Hz AC7200V/60Hz	AC6000V/50Hz AC6600V/50Hz AC6600V/60Hz AC7200V/60Hz
Synchronous RPM	1500min^{-1}/50Hz 1800min^{-1}/60Hz	1500min^{-1}/50Hz 1800min^{-1}/60Hz	1500min^{-1}/50Hz 1800min^{-1}/60Hz
Rated Current	69A@6600V	92A@6600V	124A@6600V
Insulation current	F class B raise	F class B raise	F class B raise
Hydraulic system			
Max.oil flow	6×335L/min	4×375L/min,2×425L/min	8×500L/min
Relief Valve Settings:			
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)
Swing Circuits	29.4MPa(300kgf/cm^2)	27.4MPa(280kgf/cm^2)	29.4MPa(300kgf/cm^2)
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)
Pilot Circuits	4.4MPa(45kgf/cm^2)	3.9MPa(40kgf/cm^2)	3.9MPa(45kgf/cm^2)
Hydraulic Oil System	2200L	3170L	4000L
Hydraulic Oil Tank	1050L	1320L	1900L
Upperstructure			
Bucket digging Force	754kN(76900kgf)	943kN(96200kgf)	1166kN(119000kgf)
Arm crowding force on ground	720kN(73500kgf)	918kN(93600kgf)	1108kN(113000kgf)
Max. Swing speed	4.7min^{-1}(rpm)	3.8min^{-1}(rpm)	2.9min^{-1}(rpm)
Undercarriage			
Travel speeds:			
High	0 to 2.8km/h	0 to 2.2km/h	0 to 2.1km/h
Low	0 to 2.1km/h	0 to 1.5km/h	0 to 1.6km/h
Standard shoe width	800mm	1000mm	1270mm

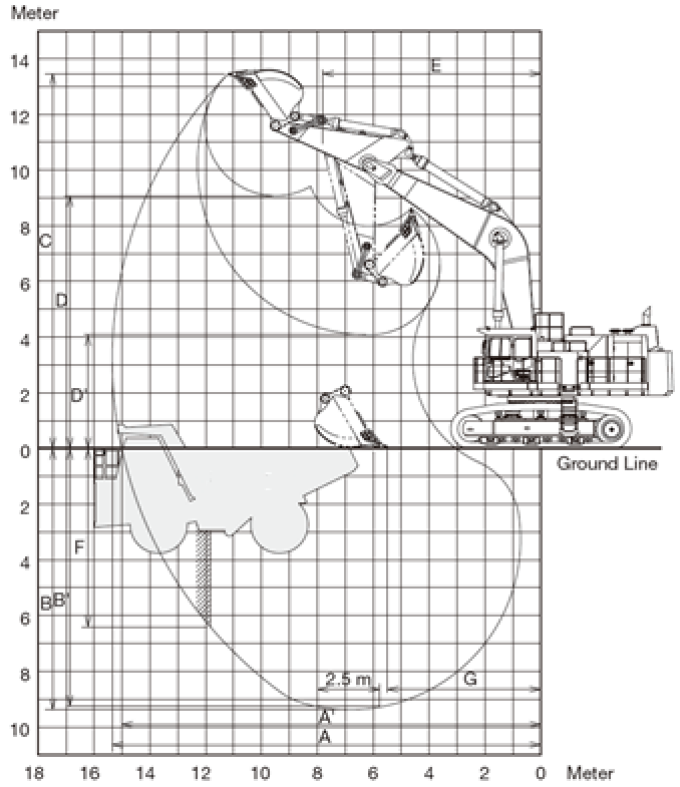
Hydraulic Mining Excavators

Specifications
・Loading shovel Configuration with electric Drive

Model	EX5600E-6	EX8000E-6
Power output	860 × 2kW	1200 × 2kW
Operating weight	527000kg	808000kg
Bucket Range (ISO 7546 Heaped 2:1)	27.0-29.0m^3	40.0-43.0m^3
Electric motor		
Type	HITACHI TFOA-KK	HITACHI TFOA-KK
Number of Motors	2	2
Voltage	AC6000V/50Hz AC6600V/50Hz	AC6000V/50Hz AC6600V/50Hz
	AC6600V/60Hz AC7200V/60Hz	AC6600V/60Hz AC7200V/60Hz
Synchronous RPM	1500min^{-1}/50Hz	1500min^{-1}/50Hz
	1800min^{-1}/60Hz	1800min^{-1}/60Hz
Rated Current	97A × 2@6600V	124A × 2@6600V
Insulation current	F class B raise	F class B raise
Hydraulic system		
Max.oil flow	8 × 375L/min,4 × 425L/min	16 × 500L/min
Relief Valve Settings:		
Implement Circuits (attachment)	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)
Swing Circuits	24.5MPa(250kgf/cm^2)	29.4MPa(300kgf/cm^2)
Travel Circuits	29.4MPa(300kgf/cm^2)	29.4MPa(300kgf/cm^2)
Pilot Circuits	3.9MPa(40kgf/cm^2)	4.4MPa(45kgf/cm^2)
Hydraulic Oil System	6200L	9700L
Hydraulic Oil Tank	2200L	3890L
Upperstructure		
Bucket digging Force	1590kN(162000kgf)	2400kN(245000kgf)
Arm crowding force on ground	1520kN(155000kgf)	2870kN(293000kgf)
Max. Swing speed	3.3min^{-1}(rpm)	2.9min^{-1}(rpm)
Undercarriage		
Travel speeds:		
High	0 to 2.3km/h	0 to 1.9km/h
Low	0 to 1.6km/h	0 to 1.3km/h
Standard shoe width	1400mm	1850mm

Hydraulic Mining Excavators Working Range/Digging Forces ・Backhoe Configuration

EX1200-6



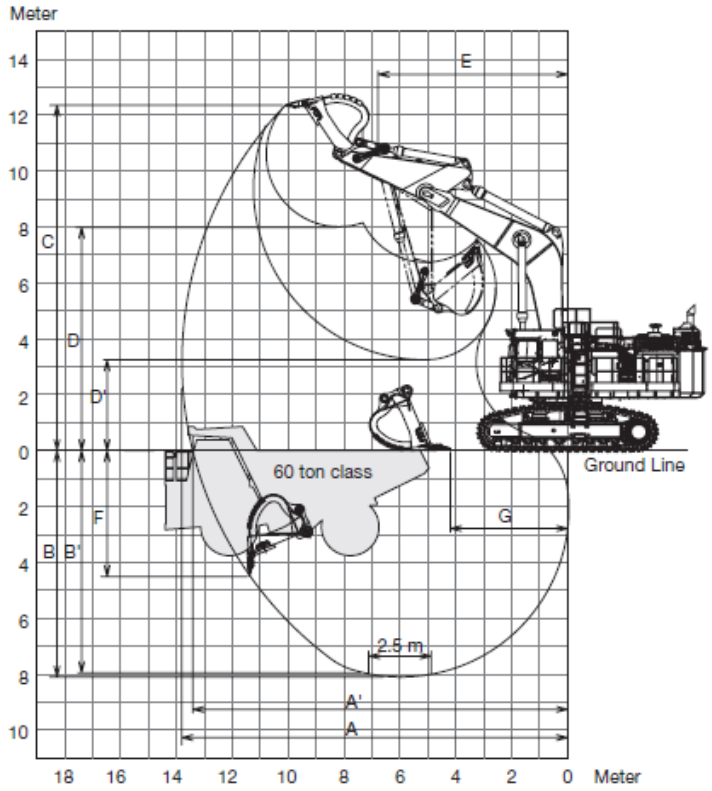
※Illustration shows the machine equipped with 9.0m boom, 3.6 m arm, and 5.2 m^3(PCSA heaped) bucket.

Unit: mm

Boom length		7.55m(BE-boom)	9.0m
Arm length		3.4m(BE-arm)	3.6m
Bucket capacity(SAE,PCSA heaped)		6.7m^3	5.2m^3
Digging material density		1800kg/m^3 or less	
A Max. digging reach		13750	15350
A' Max. digging reach(on ground)		13360	15010
B Max. digging depth		8050	9380
B' Max. digging depth(2.5m level)		7920	9260
C Max. cutting height		12410	13460
D Max. dumping height		8050	9080
D' Min. dumping height		3330	4160
E Min. swing radius		6770	7740
F Max. vertical wall		5180	6450
G Min. level crowding distance		4130	5790
Bucket digging force	ISO	569kN	482kN
		(58000kgf)	(492000kgf)
	SAE,PCSA	512kN	440kN
		(52200kgf)	(44900kgf)
Arm crowd force	ISO	438kN	430kN
		(44700kgf)	(43900kgf)
	SAE,PCSA	425kN	422kN
		(43400kgf)	(43000kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ・Backhoe Configuration

EX1200-7



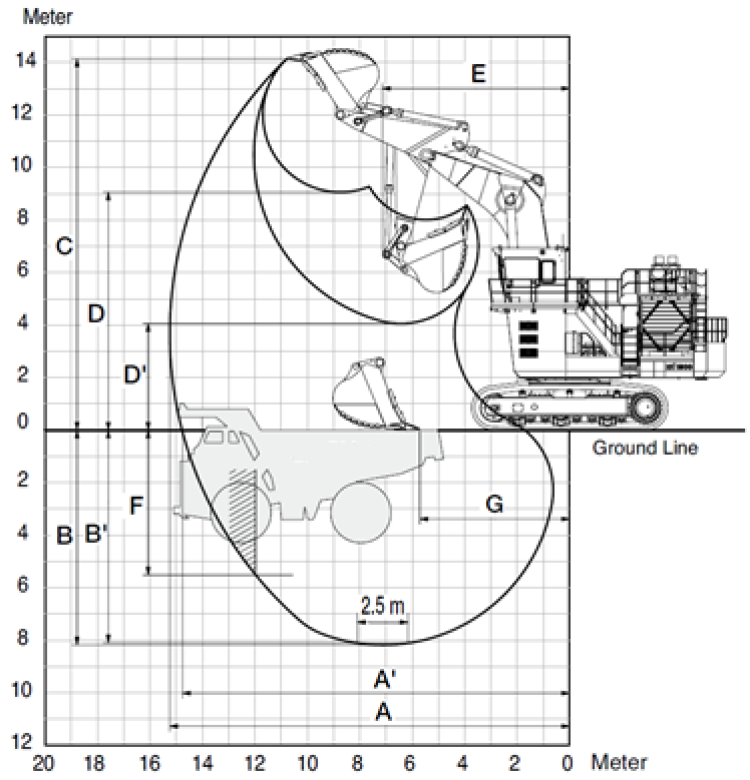
※Illustration shows the machine equipped with 9.0m boom, 3.6 m arm, and 5.2 m^3(PCSA heaped) bucket.

Unit: mm

Boom length		7.55m BE-boom	9.0m
Arm length		3.4m BE-arm	3.6m
Bucket capacity(ISO 7451 heaped 1:1)		7.0m^3	5.2m^3
Digging material density		1800kg/m3 or less	
A Max. digging reach		13790	15350
A' Max. digging reach(on ground)		13410	15010
B Max. digging depth		8100	9380
B' Max. digging depth(2.5m level)		7960	9260
C Max. cutting height		12340	13460
D Max. dumping height		8010	9080
D' Min. dumping height		3220	4160
E Min. swing radius		6770	7740
F Max. vertical wall		4440	6450
G Min. level crowding distance		4210	5790
Bucket digging force	ISO	569kN	482kN
		(58000kgf)	(492000kgf)
Arm crowd force	ISO	438kN	430kN
		(44700kgf)	(43900kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ・Backhoe Configuration

EX1900-6,EX1900E-6



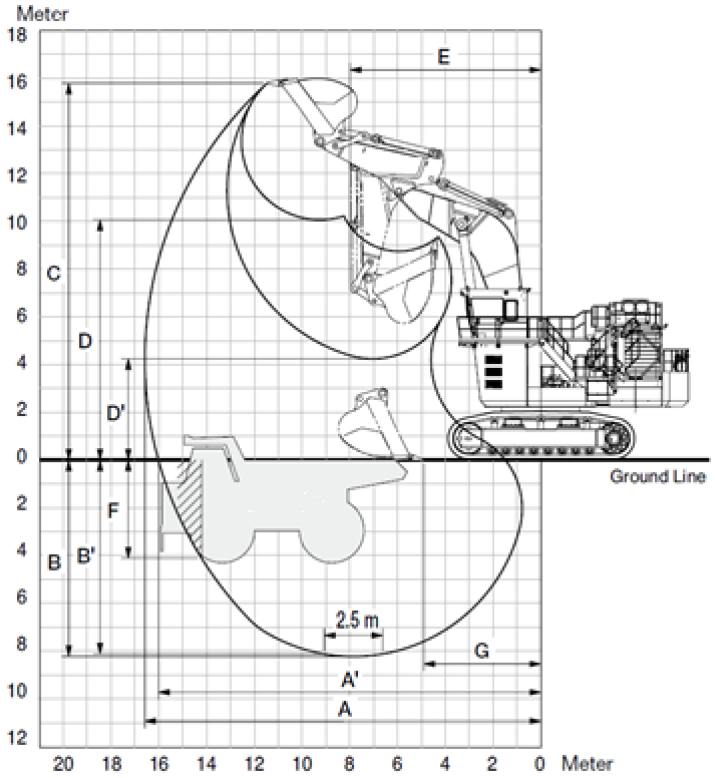
※Illustration shows the machine equipped with 8.3m boom, 3.6 m arm, and 12.0m³(SAE,PCSA heaped) bucket.

Unit: mm

Boom length		8.3m	8.7m	
Arm length		3.6m	4.0m	5.5m
Bucket capacity(SAE,PCSA heaped)		12.0m³	9.6m³	8.0m³
Digging material density		1800kg/m³ or less		
A Max. digging reach		15250	16070	17500
A' Max. digging reach(on ground)		14770	15630	17090
B Max. digging depth		8180	9230	10730
B' Max. digging depth(2.5m level)		8070	9120	10640
C Max. cutting height		14140	14480	15010
D Max. dumping height		9060	9200	9810
D' Min. dumping height		4060	3560	2060
E Min. swing radius		7140	7760	7710
F Max. vertical wall		5520	6630	7430
G Min. level crowding distance		4480	5230	4810
Bucket digging force	ISO	671kN	649kN	651kN
		(68400kgf)	(66200kgf)	(66400kgf)
	SAE,PCSA	617kN	588kN	588kN
		(62900kgf)	(60000kgf)	(60000kgf)
Arm crowd force	ISO	620kN	575kN	545kN
		(63200kgf)	(58600kgf)	(55600kgf)
	SAE,PCSA	609kN	559kN	534kN
		(62100kgf)	(57000kgf)	(54400kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ·Backhoe Configuration

EX2600-6,EX2600E-6



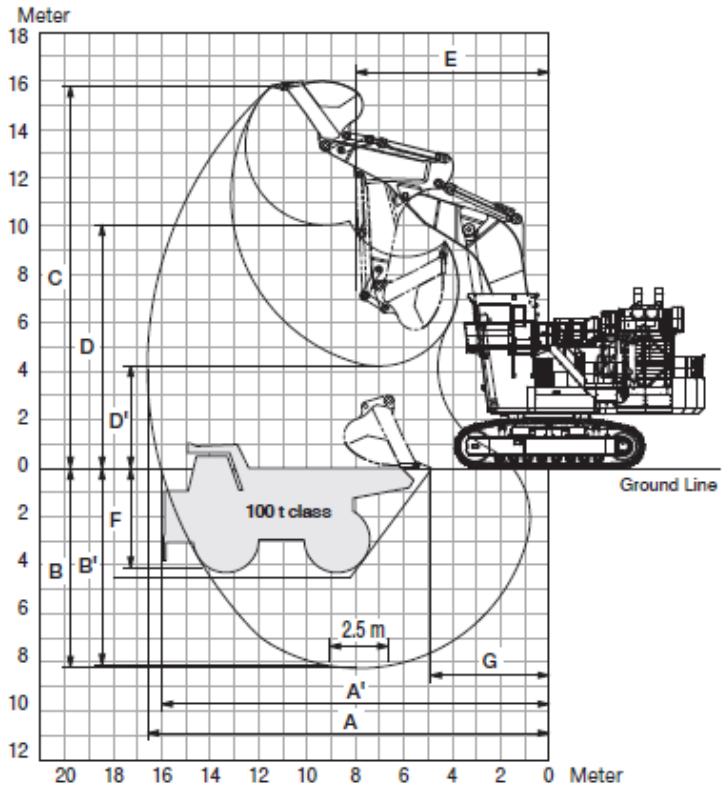
Unit: mm

BE-boom length		8.7m
BE-arm length		3.9m
Bucket capacity(SAE,PCSA heaped)		17.0m^3
Digging material density		1800kg/m^3 or less
A Max. digging reach		16600
A' Max. digging reach(on ground)		16050
B Max. digging depth		8250
B' Max. digging depth(2.5m level)		8150
C Max. cutting height		15800
D Max. dumping height		10100
D' Min. dumping height		4250
E Min. swing radius		7990
F Max. vertical wall		4110
G Min. level crowding distance		4900
Bucket digging force	ISO	830kN
		(84600kgf)
	SAE,PCSA	760kN
		(77500kgf)
Arm crowd force	ISO	785kN
		(80000kgf)
	SAE,PCSA	765kN
		(78000kgf)

Hydraulic Mining Excavators

Working Range/Digging Forces
・Backhoe Configuration

EX2600-7

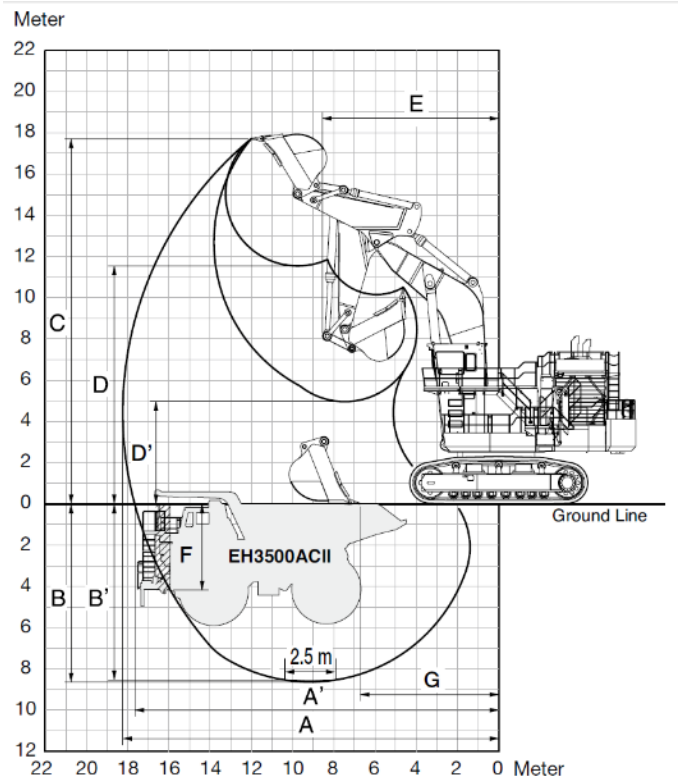


Unit: mm

BE-boom length		8.7m
BE-arm length		3.9m
Bucket capacity(ISO 7451 heaped 1:1)		17.0m^3
Digging material density		1800kg/m^3 or less
A Max. digging reach		16600
A' Max. digging reach(on ground)		16050
B Max. digging depth		8250
B' Max. digging depth(2.5m level)		8150
C Max. cutting height		15800
D Max. dumping height		10100
D' Min. dumping height		4250
E Min. swing radius		7990
F Max. vertical wall		4110
G Min. level crowding distance		4900
Bucket digging force	ISO	830kN
		(84600kgf)
Arm crowd force	ISO	785kN
		(80000kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ·Backhoe Configuration

EX3600-6,EX3600E-6



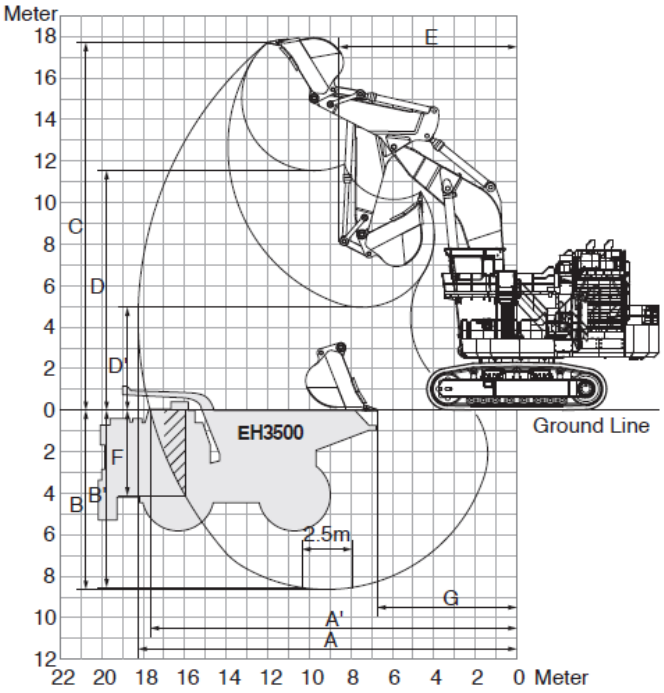
Unit: mm

BE-boom length		9.6m
BE-arm length		4.5m
Bucket capacity(SAE,PCSA heaped)		22.0m^3
Digging material density		1800kg/m^3 or less
A Max. digging reach		18240
A' Max. digging reach(on ground)		17660
B Max. digging depth		8630
B' Max. digging depth(2.5m level)		8540
C Max. cutting height		17710
D Max. dumping height		11540
D' Min. dumping height		4960
E Min. swing radius		8560
F Max. vertical wall		4180
G Min. level crowding distance		6720
Bucket digging force	ISO	1050kN
		(107000kgf)
	SAE:PCSA	932kN
		(95000kgf)
Arm crowd force	ISO	951kN
		(97000kgf)
	SAE:PCSA	922kN
		(94000kgf)

Hydraulic Mining Excavators

Working Range/Digging Forces
・Backhoe Configuration

EX3600-7

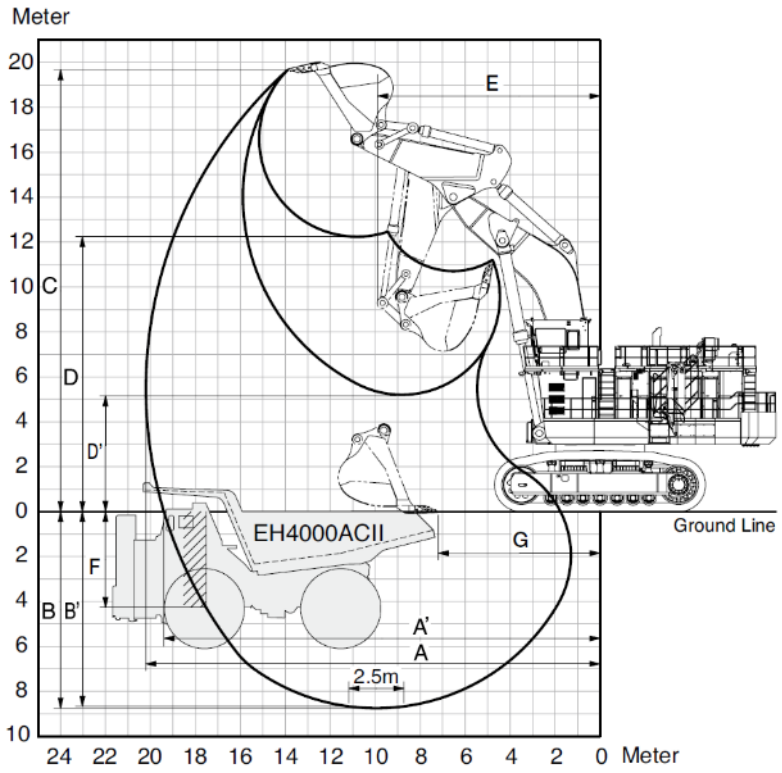


Unit: mm

BE-boom length		9.6m
BE-arm length		4.5m
Bucket capacity(ISO 7451 heaped 1:1)		22.0m^3
Digging material density		1800kg/m^3 or less
A Max. digging reach		18240
A' Max. digging reach(on ground)		17660
B Max. digging depth		8630
B' Max. digging depth(2.5m level)		8540
C Max. cutting height		17710
D Max. dumping height		11540
D' Min. dumping height		4960
E Min. swing radius		8560
F Max. vertical wall		4180
G Min. level crowding distance		6720
Bucket digging force	ISO	1050kN
		(107000kgf)
Arm crowd force	ISO	951kN
		(97000kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ·Backhoe Configuration

EX5600-6,EX5600E-6



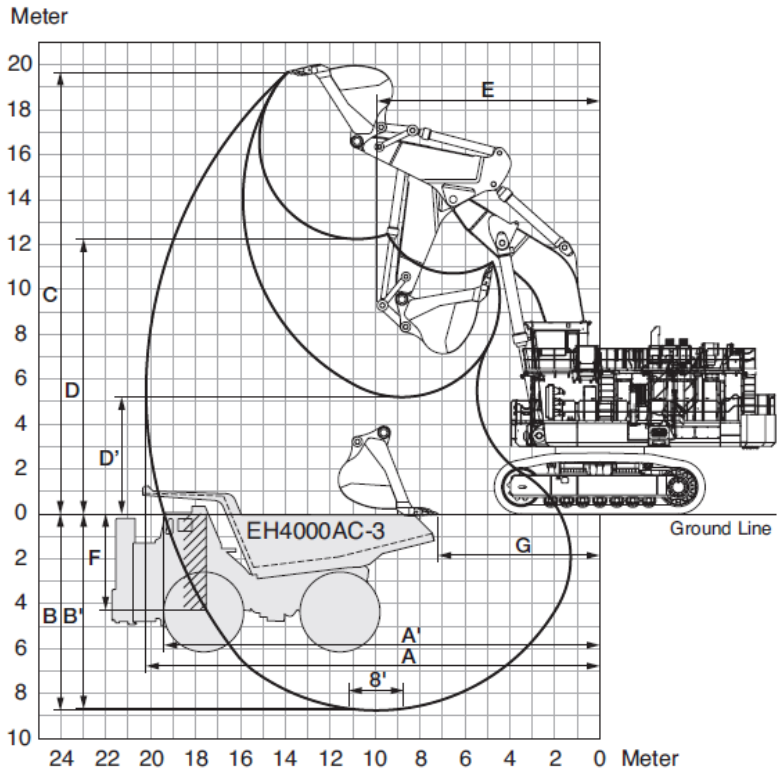
Unit: mm

BE-boom length		10.1m
BE-arm length		5.0m
Bucket capacity(SAE,PCSA heaped)		34.0m^3
Digging material density		1800kg/m^3 or less
A Max. digging reach		20200
A' Max. digging reach(on ground)		19400
B Max. digging depth		8800
B' Max. digging depth(2.5m level)		8700
C Max. cutting height		19700
D Max. dumping height		12200
D' Min. dumping height		5200
E Min. swing radius		9900
F Max. vertical wall		4300
G Min. level crowding distance		7200
Bucket digging force	ISO	1480kN
		(151000kgf)
	SAE:PCSA	1370kN
		(140000kgf)
Arm crowd force	ISO	1300kN
		(133000kgf)
	SAE:PCSA	1280kN
		(131000kgf)

Hydraulic Mining Excavators

Working Range/Digging Forces
・Backhoe Configuration

EX5600-7

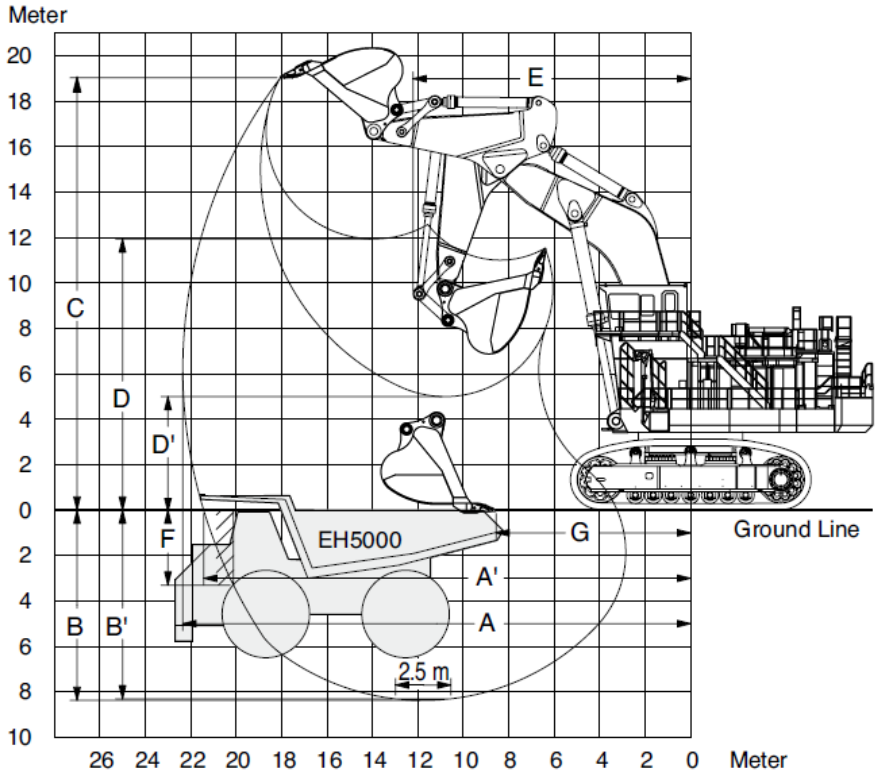


Unit: mm

BE-boom length		10.1m
BE-arm length		5.0m
Bucket capacity(ISO 7451 heaped 1:1)		34.0m^3
Digging material density		1800kg/m^3 or less
A Max. digging reach		20200
A' Max. digging reach(on ground)		19400
B Max. digging depth		8800
B' Max. digging depth(2.5m level)		8700
C Max. cutting height		19700
D Max. dumping height		12200
D' Min. dumping height		5200
E Min. swing radius		9900
F Max. vertical wall		4300
G Min. level crowding distance		7200
Bucket digging force	ISO	1480kN
		(151000kgf)
Arm crowd force	ISO	1300kN
		(133000kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ·Backhoe Configuration

EX8000-6,EX8000E-6



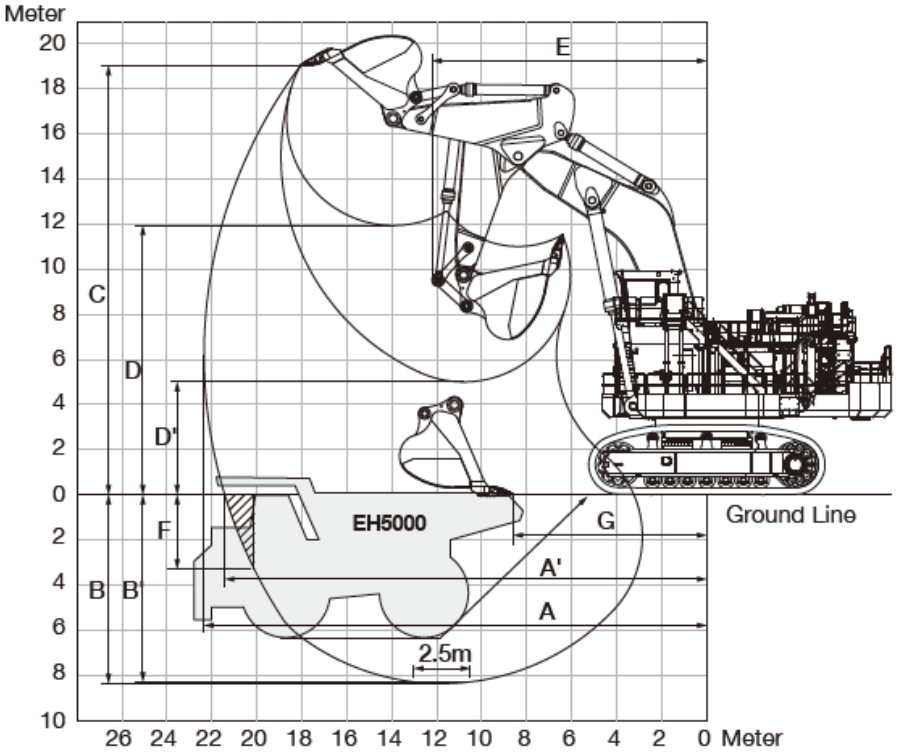
Unit: mm

BE-boom length		11.5m
BE-arm length		5.8m
Bucket capacity(SAE,PCSA heaped)		43.0m^3
Digging material density		1800kg/m^3 or less
A Max. digging reach		22300
A' Max. digging reach(on ground)		21400
B Max. digging depth		8400
B' Max. digging depth(2.5m level)		8300
C Max. cutting height		19000
D Max. dumping height		11900
D' Min. dumping height		5000
E Min. swing radius		12200
F Max. vertical wall		3300
G Min. level crowding distance		8600
Bucket digging force	ISO	2020kN
		(206000kgf)
	SAE:PCSA	1900kN
		(193400kgf)
Arm crowd force	ISO	1770kN
		(180700kgf)
	SAE:PCSA	1750kN
		(178300kgf)

Hydraulic Mining Excavators

Working Range/Digging Forces
・Backhoe Configuration

EX8000-7



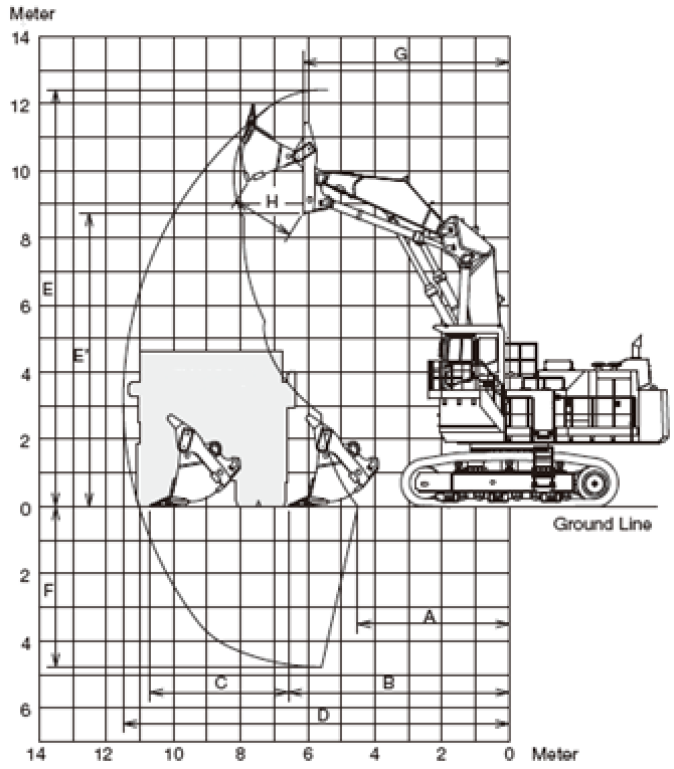
Unit: mm

BE-boom length		11.5m
BE-arm length		5.8m
Bucket capacity(ISO 7451 heaped 1:1)		43.0m^3
Digging material density		1800kg/m^3 or less
A Max. digging reach		22300
A' Max. digging reach(on ground)		21400
B Max. digging depth		8400
B' Max. digging depth(2.5m level)		8300
C Max. cutting height		19000
D Max. dumping height		11900
D' Min. dumping height		5000
E Min. swing radius		12200
F Max. vertical wall		3300
G Min. level crowding distance		8600
Bucket digging force	ISO	2020kN
		(206000kgf)
Arm crowd force	ISO	1770kN
		(180700kgf)

Hydraulic Mining Excavators

Working Range/Digging Forces ·Loading shovel Configuration

EX1200-6



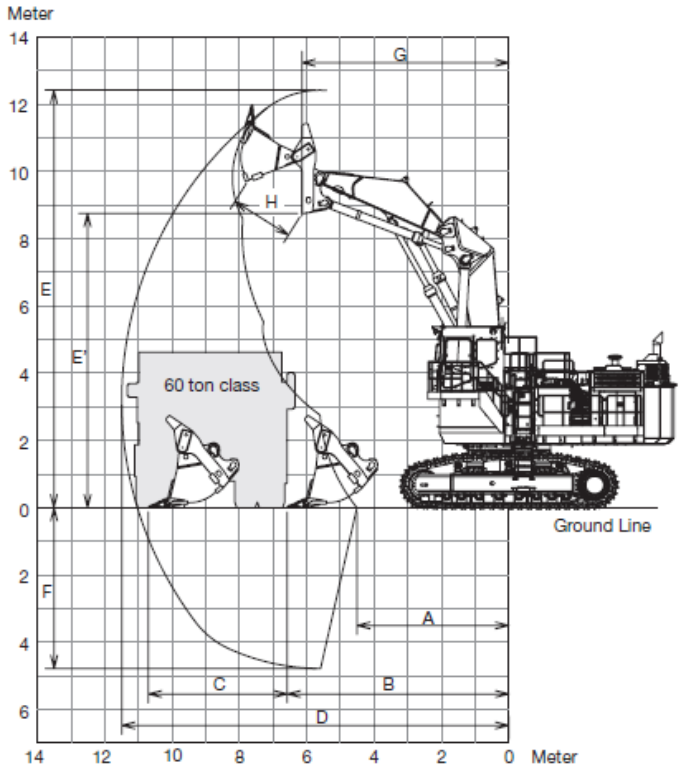
Unit: mm

Boom length	5.2m
Arm length	4.0m
Bucket capacity(heaped)	6.5m^3
Digging material density	1800kg/m^3 or less
A Min. digging distance	4510
B Min. level crowding distance	6580
C Level crowding distance	4370
D Max. digging reach	11500
E Max. cutting height	12410
E' Max. dumping height	8750
F Max. digging depth	4780
G Working radius at max. dumping height	6140
H Max. bucket opening width	1880
Arm crowding force on ground	585kN
	(59700kgf)
Bucket digging force	709kN
	(72300kgf)

Hydraulic Mining Excavators

Working Range/Digging Forces
・Loading shovel Configuration

EX1200-7

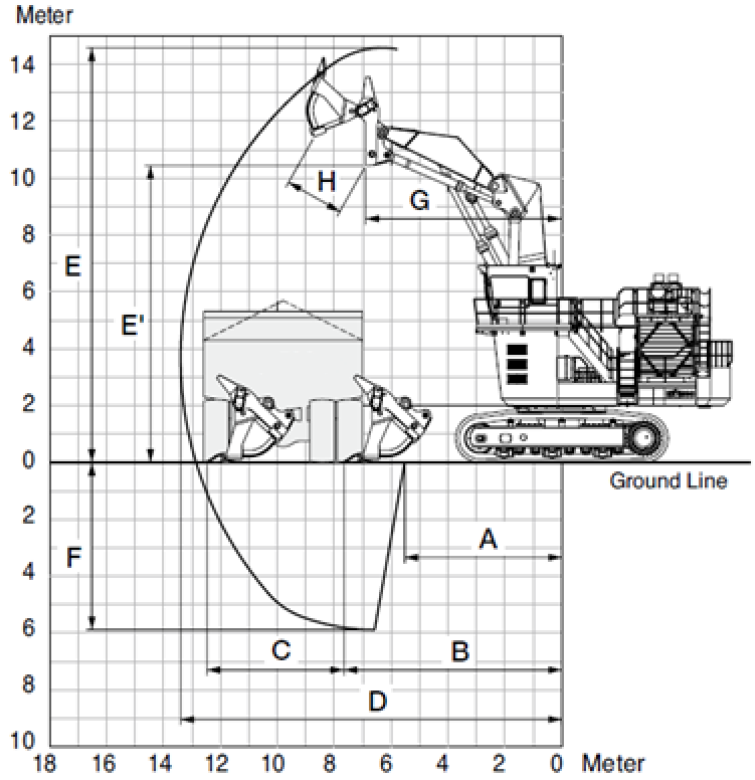


Unit: mm

Boom length	5.2m
Arm length	4.0m
Bucket capacity(ISO 7456 heaped 2:1)	6.5m^3
Digging material density	1800kg/m^3 or less
A Min. digging distance	4510
B Min. level crowding distance	6580
C Level crowding distance	4370
D Max. digging reach	11500
E Max. cutting height	12410
E' Max. dumping height	8750
F Max. digging depth	4780
G Working radius at max. dumping height	6140
H Max.bucket opening width	1880
Arm crowding force on ground	585kN
	(59700kgf)
Bucket digging force	709kN
	(72300kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ・Loading shovel Configuration

EX1900-6,EX1900E-6

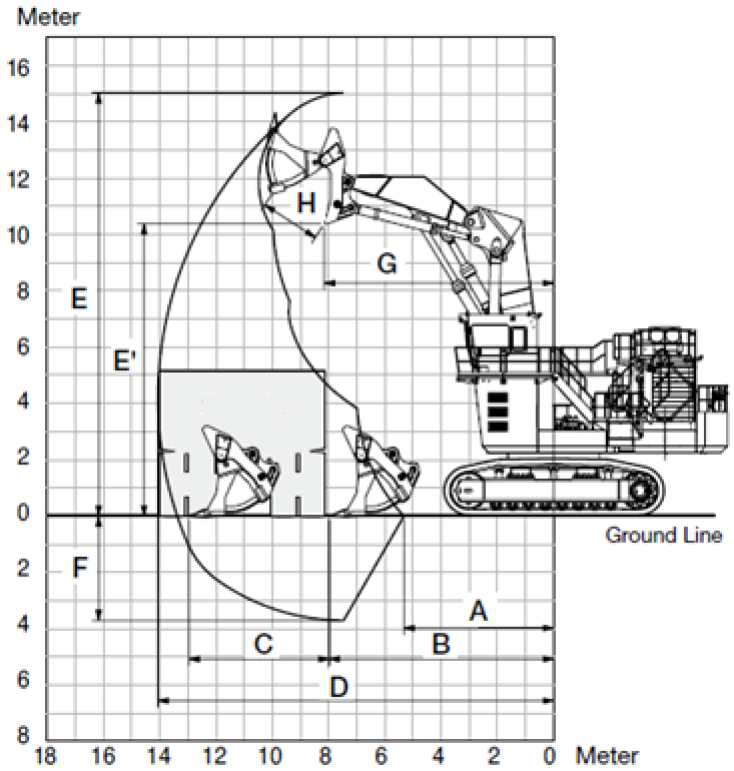


Unit: mm

Boom length		6.2m
Arm length		4.4m
Bucket capacity(SAE,PCSA heaped)		11m^3
Digging material density		1800kg/m^3 or less
A Min. digging distance		5550
B Min. level crowding distance		7650
C Level crowding distance		4820
D Max. digging reach		13430
E Max. cutting height		14610
E' Max. dumping height		10440
F Max. digging depth		5920
G Working radius at max. dumping height		6890
H Max. bucket opening width		2100
Arm crowding force on ground	8.8m^3	720kN(73500kgf)
	11.0m^3	
	12.0m^3	655kN(66800kgf)
Bucket digging force	8.8m^3	754kN(76900kgf)
	11.0m^3	
	12.0m^3	687kN(70100kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ・Loading shovel Configuration

EX2600-6,EX2600E-6



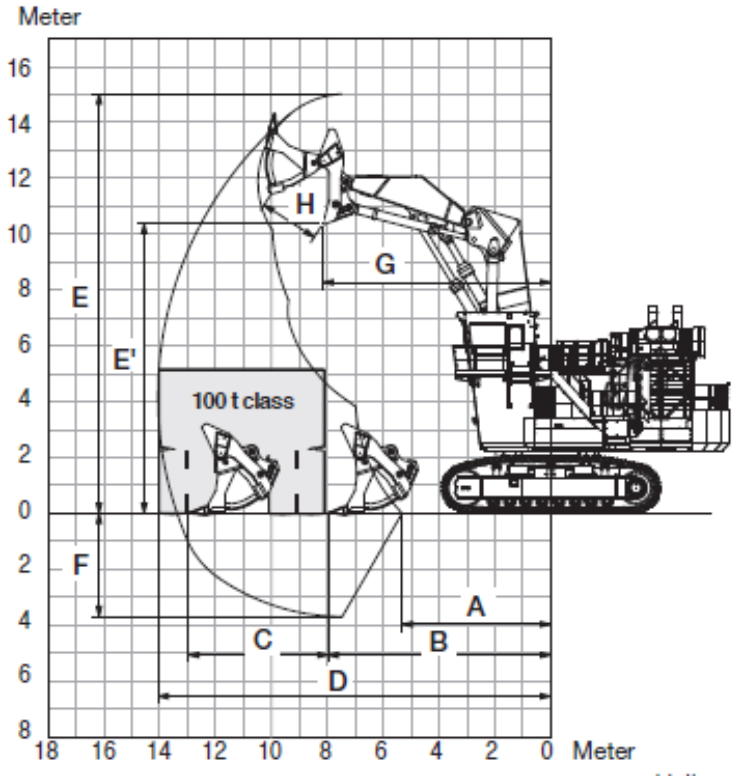
※Illustration shows the machine equipped with 15.0m³(heaped) bucket.

Unit: mm

Boom length	6.6m	
Arm length	4.6m	
Bucket capacity(SAE,PCSA heaped)	15.0m³	16.5m³
Digging material density	1800kg/m3 or less	1600kg/m3 or less
A Min. digging distance	5340	5200
B Max. digging depth	7980	8240
C Level crowding distance	4980	4960
D Max. dumping height	14060	14300
E Min. swing radius	15010	15250
E' Min. dumping height	10350	10350
F Max. vertical wall	3720	3960
G Working radius at max. dumping height	8140	8140
H Max.bucket opening width	2150	2150
Arm crowding force on ground	918kN	907kN
	(93600kgf)	(92500kgf)
Bucket digging force	943kN	873kN
	(96200kgf)	(89000kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ・Loading shovel Configuration

EX2600-7



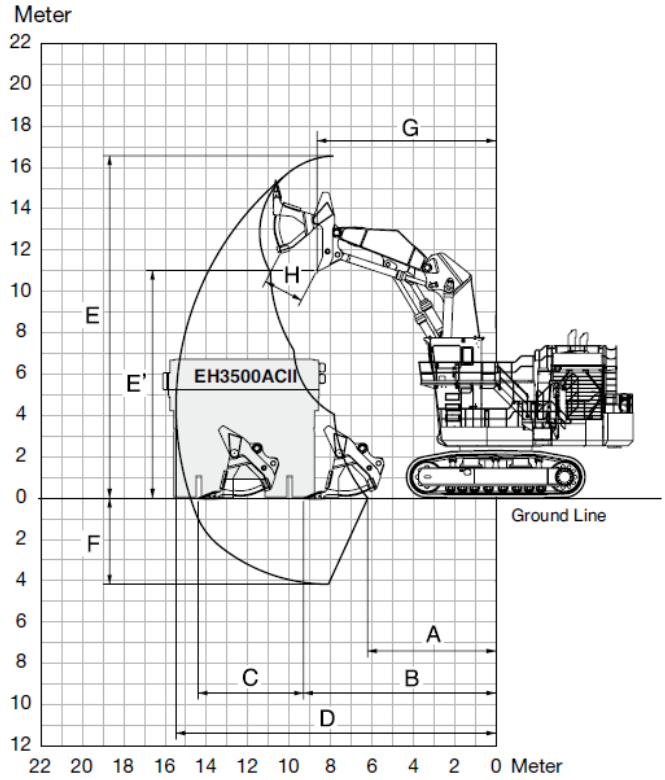
※Illustration shows the machine equipped with 15.0m³(heaped) bucket.

Unit: mm

Boom length	6.6m	
Arm length	4.6m	
Bucket capacity(ISO 7456 heaped 2:1)	15.0m³	16.5m³
Digging material density	1800kg/m³ or less	1600kg/m³ or less
A Min. digging distance	5340	5200
B Min. level crowding distance	7980	8240
C Level crowding distance	4980	4960
D Max. digging reach	14060	14300
E Max. cutting height	15010	15250
E' Max. dumping height	10350	10350
F Max. digging depth	3720	3960
G Working radius at max. dumping height	8140	8140
H Max. bucket opening width	2150	2150
Arm crowding force on ground	918kN	907kN
	(93600kgf)	(92500kgf)
Bucket digging force	943kN	873kN
	(96200kgf)	(89000kgf)

Hydraulic Working Range/Digging Forces
Mining Excavators ·Loading shovel Configuration

EX3600-6,EX3600E-6



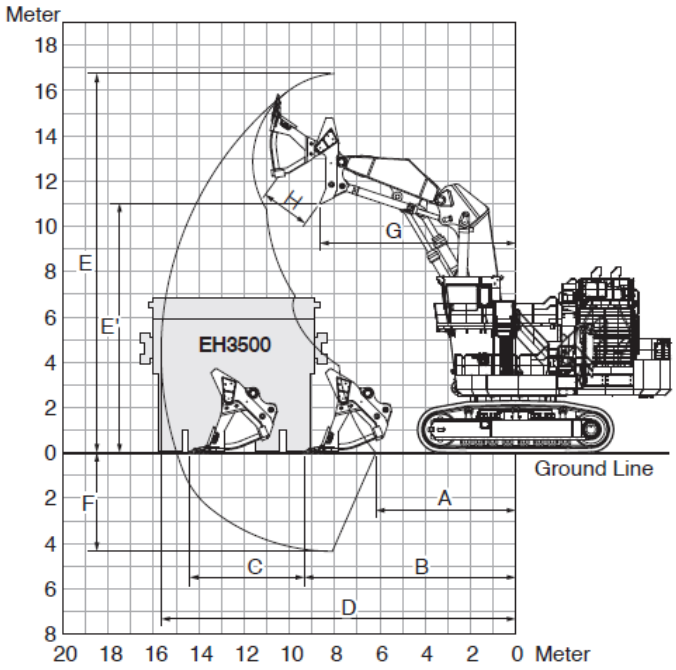
Unit: mm

Boom length	7.1m	
Arm length	4.7m	
Bucket capacity(SAE,PCSA heaped)	21.0m^3	23.0m^3
Digging material density	1800kg/m^3 or less	1600kg/m^3 or less
A Min. digging distance	6190	6180
B Min. level crowding distance	9300	9360
C Level crowding distance	5100	5080
D Max. digging reach	15470	15550
E Max. cutting height	16560	16640
E' Max. dumping height	10990	10990
F Max. digging depth	4160	4250
G Working radius at max. dumping height	8650	8650
H Max. bucket opening width	1950	1950
Arm crowding force on ground	1108kN	1084kN
	(113000kgf)	(111000kgf)
Bucket digging force	1166kN	1137kN
	(119000kgf)	(116000kgf)

Hydraulic Mining Excavators

Working Range/Digging Forces
・Loading shovel Configuration

EX3600-7

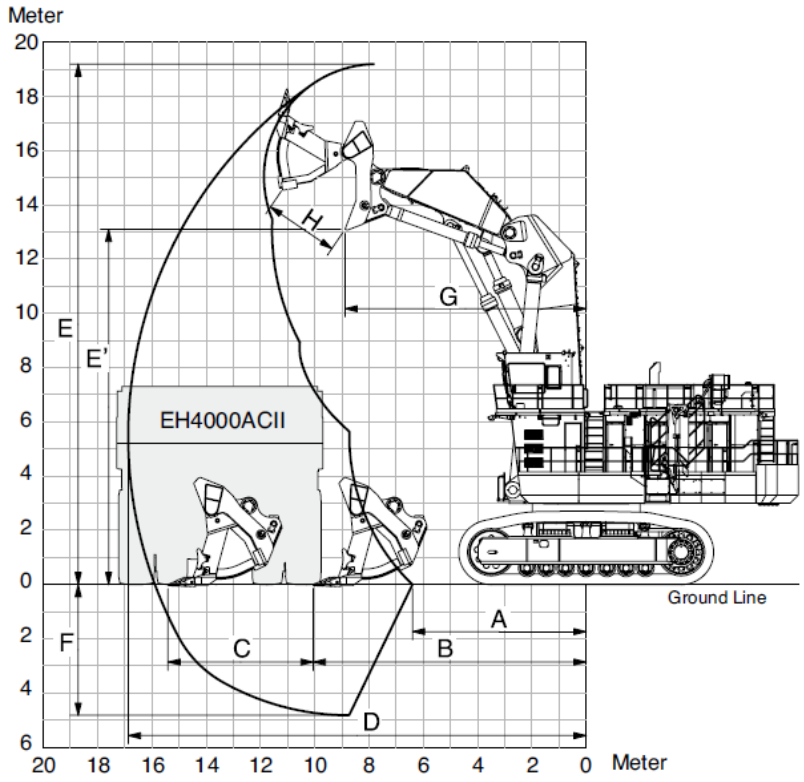


Unit: mm

Boom length	7.1m
Arm length	4.7m
Bucket capacity(ISO 7456 heaped 2:1)	22.0m^3
Digging material density	1800kg/m^3 or less
A Min. digging distance	6180
B Min. level crowding distance	9330
C Level crowding distance	5080
D Max. digging reach	15660
E Max. cutting height	16750
E' Max. dumping height	10990
F Max. digging depth	4350
G Working radius at max. dumping height	8650
H Max. bucket opening width	1950
Arm crowding force on ground	1190kN
	(121000kgf)
Bucket digging force	1030kN
	(105000kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ・Loading shovel Configuration

EX5600-6,EX5600E-6



※Illustration shows the machine equipped with 29.0m³(heaped) bucket.

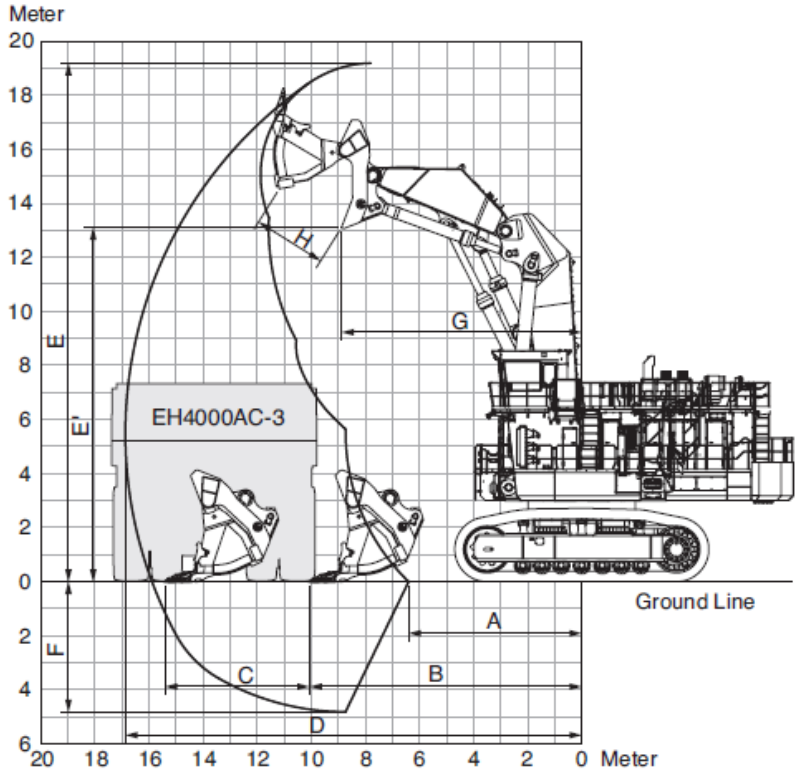
Unit: mm

Boom length	7.7m	
Arm length	5.3m	
Bucket capacity(SAE,PCSA heaped)	27.0m³	29.0m³
Digging material density	1900kg/m³ or less	1800kg/m³ or less
A Min. digging distance	6150	6400
B Min. level crowding distance	9800	10050
C Level crowding distance	5550	5350
D Max. digging reach	16600	17000
E Max. cutting height	18900	19200
E' Max. dumping height	13100	13100
F Max. digging depth	4550	4800
G Working radius at max. dumping height	8900	8900
H Max. bucket opening width	2700	2700
Arm crowding force on ground	1570kN	1520kN
	(160000kgf)	(155000kgf)
Bucket digging force	1710kN	1590kN
	(174000kgf)	(162000kgf)

Hydraulic Mining Excavators

Working Range/Digging Forces
・Loading shovel Configuration

EX5600-7



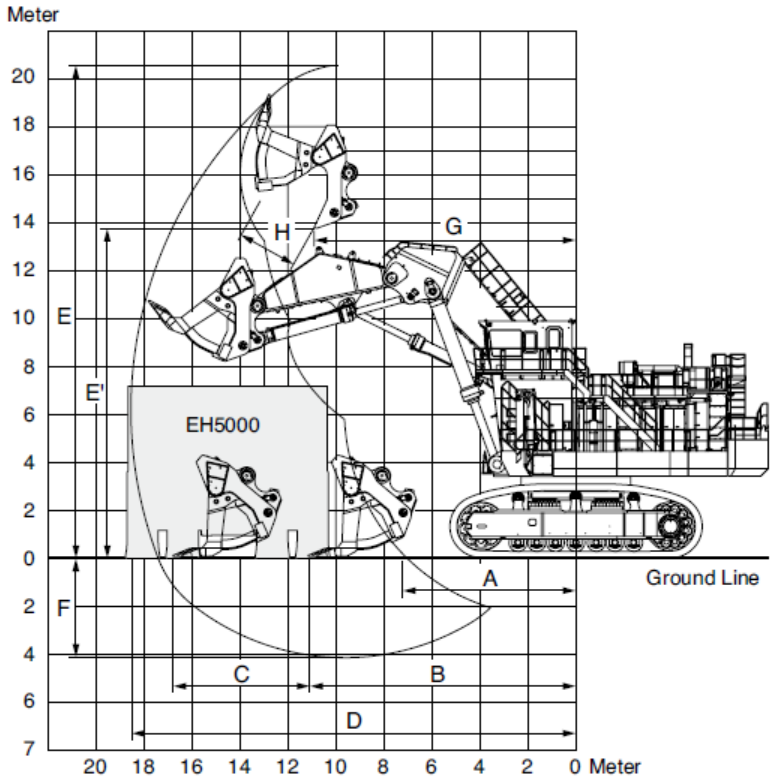
※Illustration shows the machine equipped with 29.0m³(heaped) bucket.

Unit: mm

Boom length	7.7m	
Arm length	5.3m	
Bucket capacity(ISO 7456 heaped 2:1)	27.0m³	29.0m³
Digging material density	1900kg/m³ or less	1800kg/m³ or less
A Min. digging distance	6150	6400
B Min. level crowding distance	9800	10050
C Level crowding distance	5550	5350
D Max. digging reach	16600	17000
E Max. cutting height	18900	19200
E' Max. dumping height	13100	13100
F Max. digging depth	4550	4800
G Working radius at max. dumping height	8900	8900
H Max. bucket opening width	2700	2700
Arm crowding force on ground	1570kN	1520kN
	(160000kgf)	(155000kgf)
Bucket digging force	1710kN	1590kN
	(174000kgf)	(162000kgf)

Hydraulic Mining Excavators Working Range/Digging Forces ・Loading shovel Configuration

EX8000-6,EX8000E-6



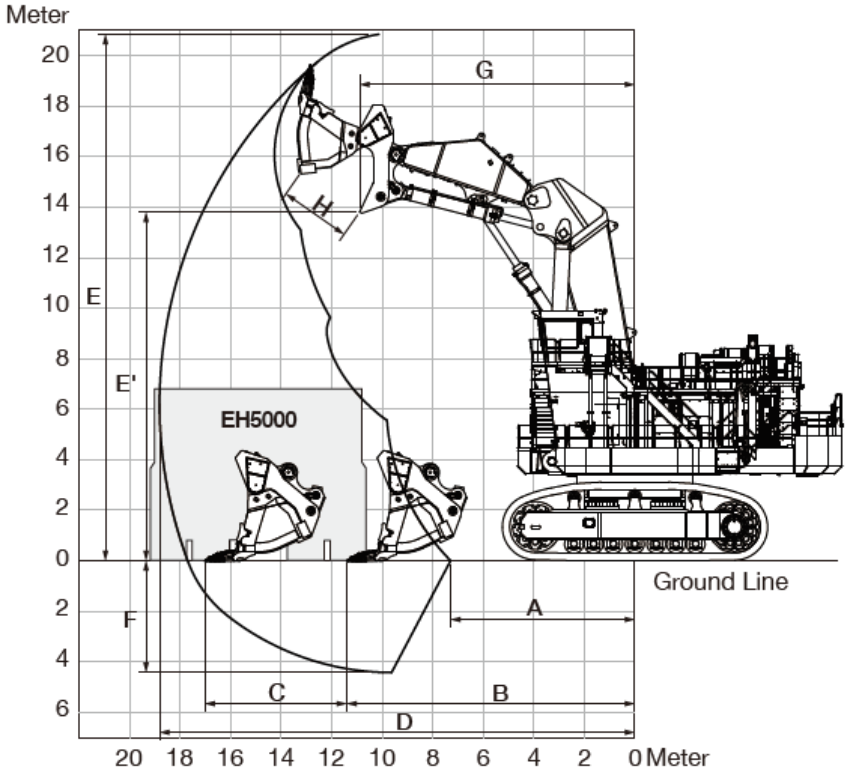
Unit: mm

Boom length	8.6m
Arm length	5.7m
Bucket capacity(SAE,PCSA heaped)	40.0m^3
Digging material density	1800kg/m^3 or less
A Min. digging distance	7290
B Min. level crowding distance	11100
C Level crowding distance	5600
D Max. digging reach	18500
E Max. cutting height	20500
E' Max. dumping height	13800
F Max. digging depth	4100
G Working radius at max. dumping height	10900
H Max. bucket opening width	2800
Crowding force	2870kN
	(293000kgf)
Breakout force	2230kN
	(227000kgf)

Hydraulic Mining Excavators

Working Range/Digging Forces
・Loading shovel Configuration

EX8000-7

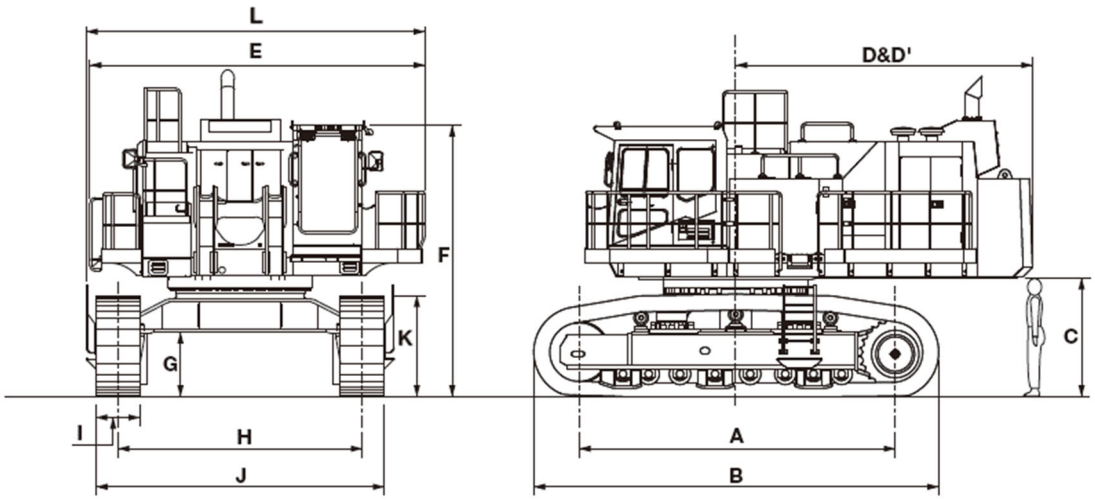


Unit: mm

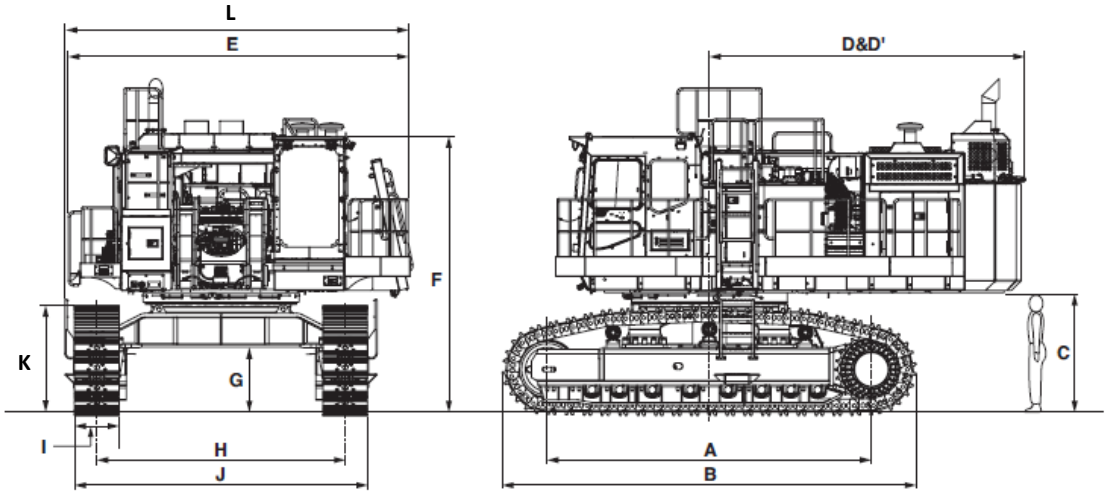
Boom length	8.6m
Arm length	5.7m
Bucket capacity(ISO 7456 heaped 2:1)	43.0m^3
Digging material density	1800kg/m^3 or less
A Min. digging distance	7290
B Min. level crowding distance	11400
C Level crowding distance	5600
D Max. digging reach	18800
E Max. cutting height	20800
E' Max. dumping height	13800
F Max. digging depth	4430
G Working radius at max. dumping height	10900
H Max. bucket opening width	2800
Crowding force	2420kN
	(246800kgf)
Breakout force	2230kN
	(227400kgf)

Hydraulic Mining Excavators General Dimensions

EX1200-6



EX1200-7

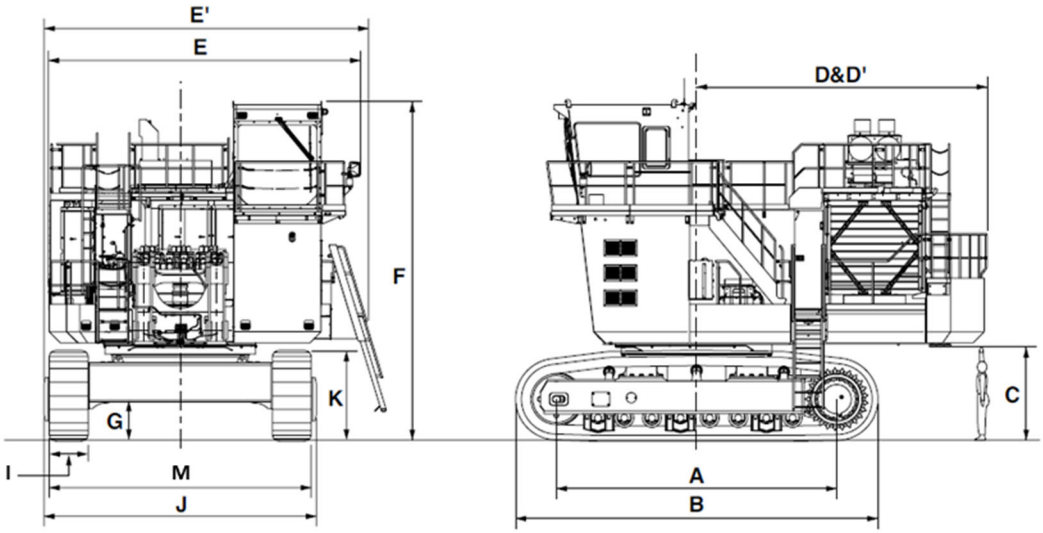


Illustrations show Tier 4 Final type.

		EX1200-6	EX1200-7
A	Distance between tumblers	5090mm	5090mm
B	Undercarriage length	6500mm	6500mm
C	Counterweight clearance	1820mm	1820mm
D	Rear-end swing radius	4850mm	4900mm
D'	Rear-end length	4740mm	4900mm
E	Overall width of upper structure	5380mm	5410mm
F	Overall height of cab	4350mm(BH)	4350mm(BH)
		5440mm(LD)	5440mm(LD)
G	Minimum ground clearance	1020mm	1020mm
H	Track gauge	3900mm	3900mm
I	Track shoe width	700mm 900mm	700mm 900mm
J	Undercarriage width	4600mm 4800mm	4600mm 4800mm
K	Track height	1660mm	1660mm
L	Overall width	5430mm	5470mm

Hydraulic General Dimensions
Mining Excavators

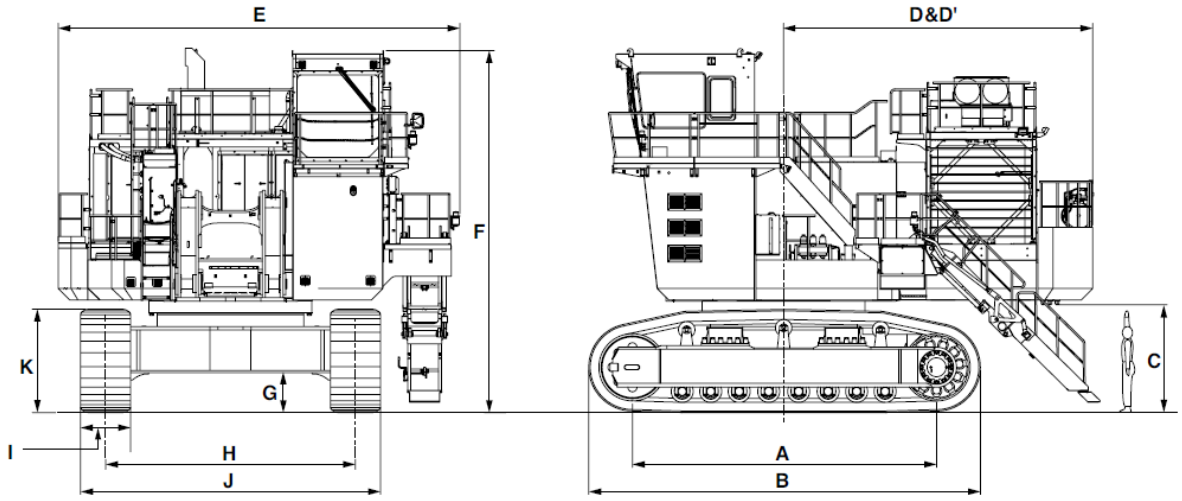
EX1900-6,EX1900E-6



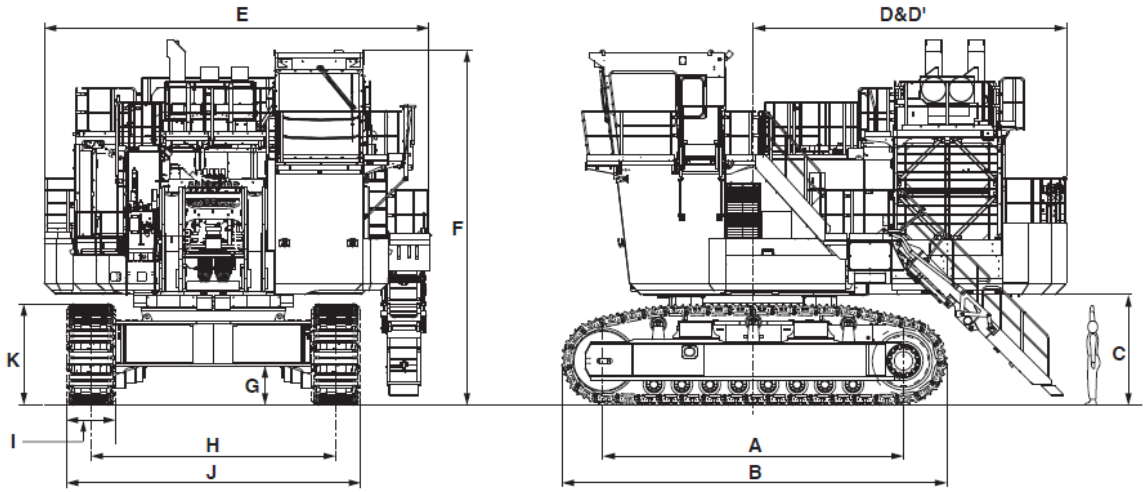
		EX1900-6
A	Distance between tumblers	5780mm
B	Undercarriage length	7480mm
C	Counterweight clearance	1920mm
D	Rear-end swing radius	6035mm
D'	Rear-end length	5990mm
E	Overall width of upper structure	6430mm
E'	Overall width(Ladder retracted)	6660mm
F	Overall height of cab	6990mm
G	Minimum ground clearance	795mm
I	Track shoe width	800mm
J	Undercarriage width	5620mm
K	Track height	1880mm
M	Crawler width	5400mm

Hydraulic General Dimensions
Mining Excavators

EX2600-6,EX2600E-6



EX2600-7

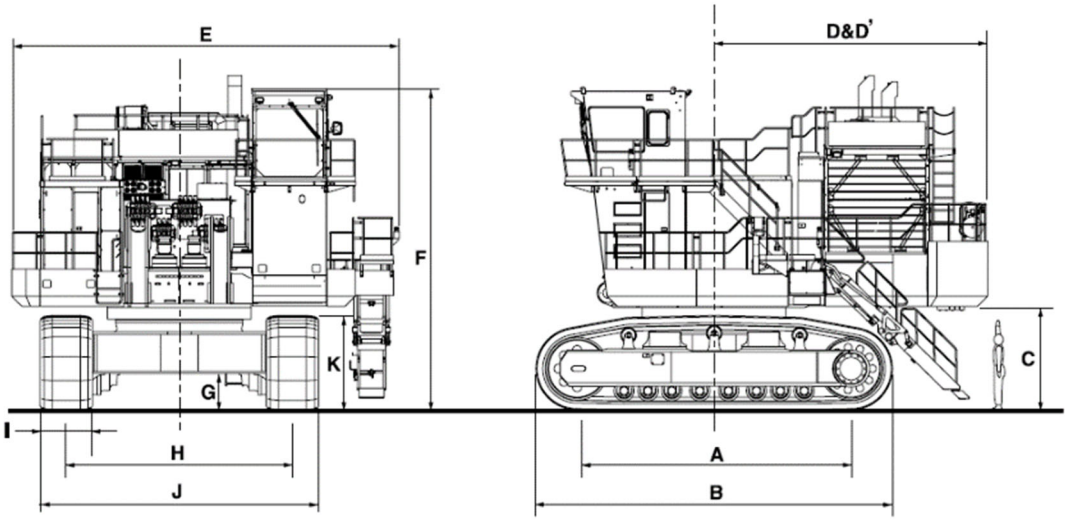


Illustrations show (Cummins Tier 4 Final) diesel engine type

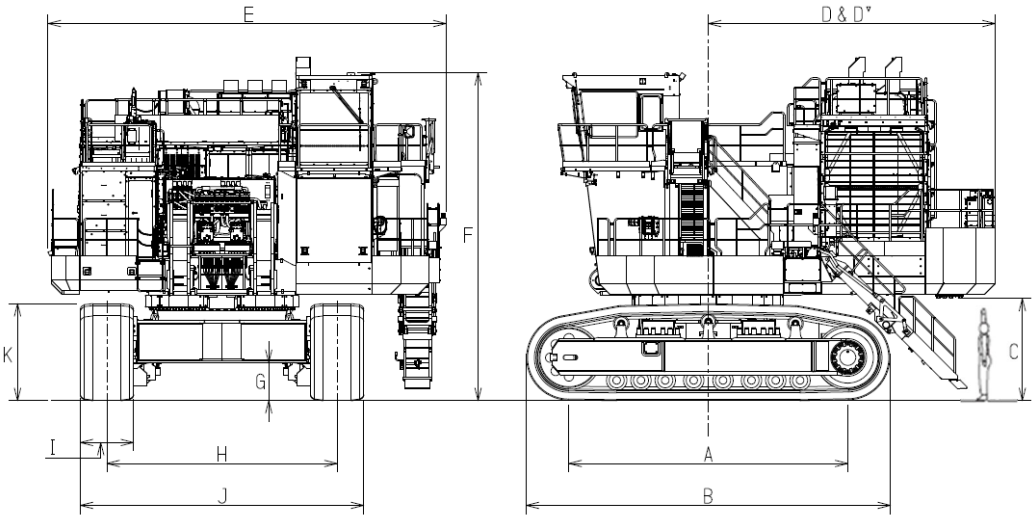
		EX2600-6	EX2600-7
A	Distance between tumblers	6120mm	6120mm
B	Undercarriage length	7870mm	7870mm
C	Counterweight clearance	2160mm	2130mm
D	Rear-end swing radius	6290mm	6490mm
D'	Rear-end length	6190mm	6390mm
E	Overall width of upper structure	8040mm	8040mm
F	Overall height of cab	7250mm	7250mm
G	Minimum ground clearance	800mm	770mm
H	Track gauge	5000mm	5000mm
I	Track shoe width	1000mm	1000mm
J	Undercarriage width	6000mm	6000mm
K	Track height	2060mm	2060mm

Hydraulic General Dimensions
Mining Excavators

EX3600-6,EX3600E-6



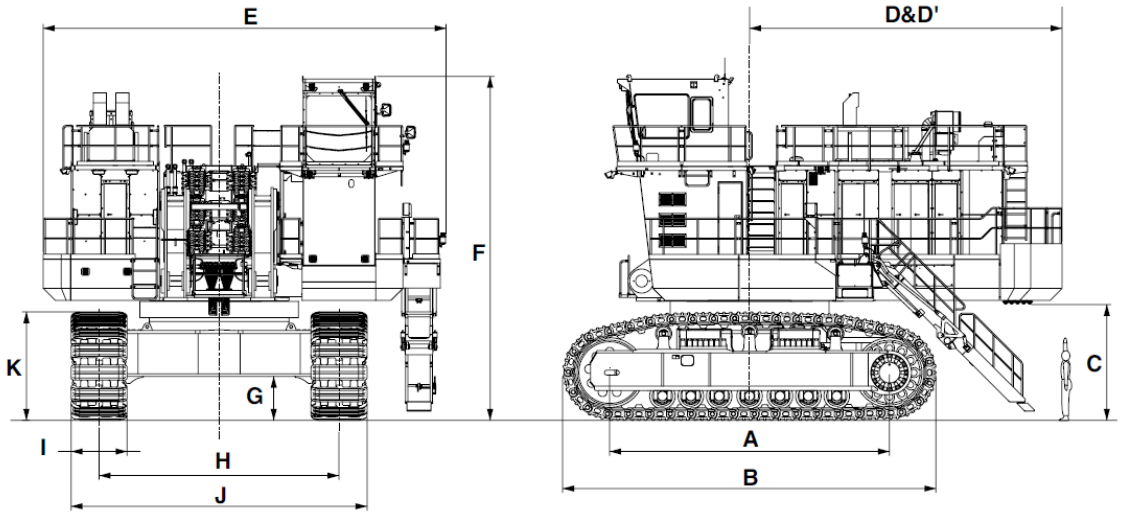
EX3600-7



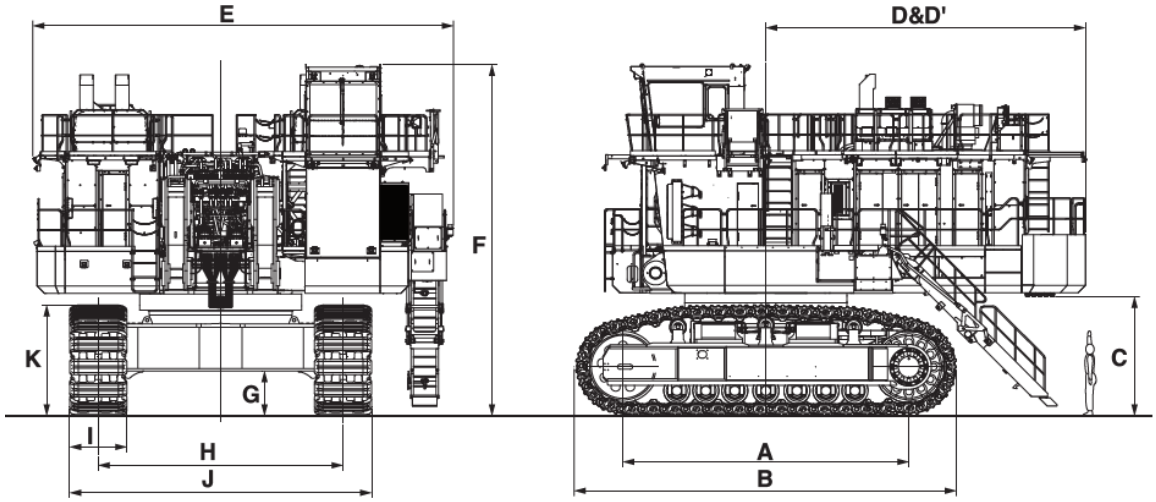
		EX3600-6	EX3600-7
A	Distance between tumblers	6660mm	6660mm
B	Undercarriage length	8700mm	8700mm
C	Counterweight clearance	2440mm	2440mm
D	Rear-end swing radius	6780mm	6980mm
D'	Rear-end length	6650mm	6850mm
E	Overall width of upper structure	9420mm	9520mm
F	Overall height of cab	7830mm	7870mm
G	Minimum ground clearance	905mm	905mm
H	Track gauge	5500mm	5500mm
I	Track shoe width	1270mm	1270mm
J	Undercarriage width	6770mm	6770mm
K	Track height	2315mm	2315mm

Hydraulic General Dimensions
Mining Excavators

EX5600-6,EX5600E-6



EX5600-7

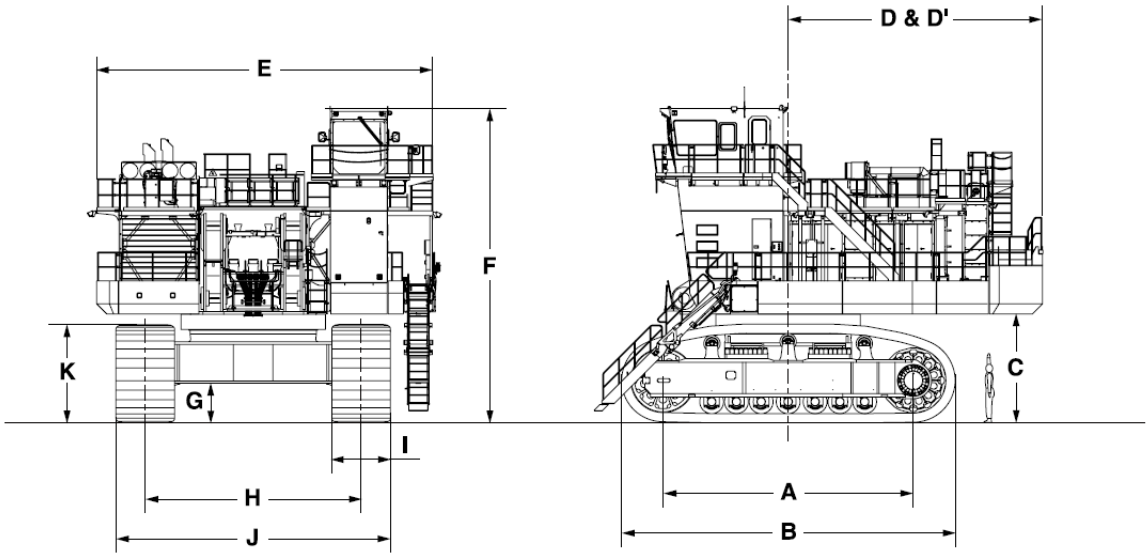


Illustrations show (Cummins Tier 4 Final) diesel engine type.

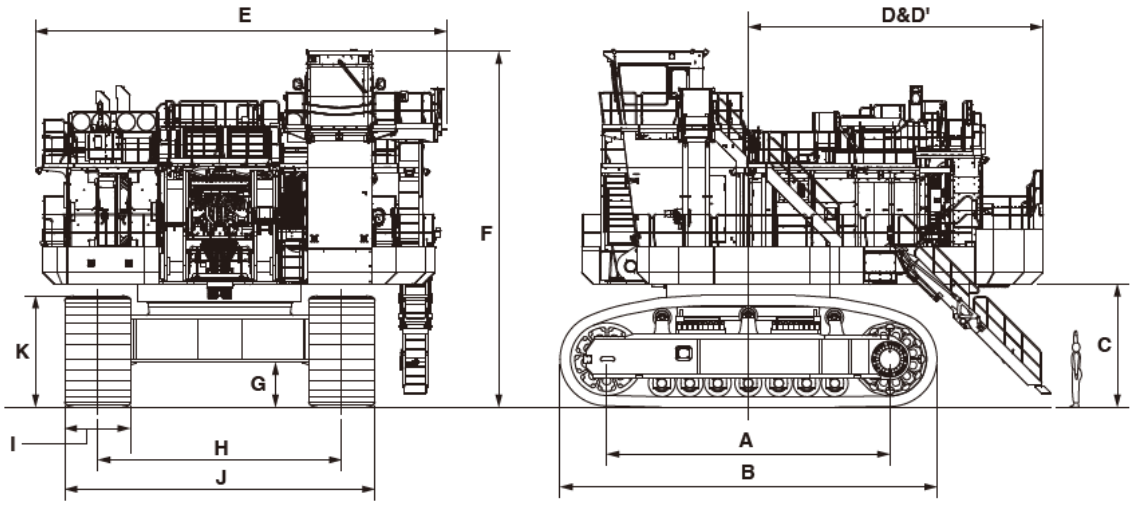
		EX5600-6	EX5600-7
A	Distance between tumblers	7000mm	7000mm
B	Undercarriage length	9350mm	9350mm
C	Counterweight clearance	2910mm	2910mm
D	Rear-end swing radius	7950mm	7970mm
D'	Rear-end length	7820mm	7860mm
E	Overall width of upper structure	10080mm	10300mm
F	Overall height of cab	8600mm	8680mm
G	Minimum ground clearance	1100mm	1100mm
H	Track gauge	6000mm	6000mm
I	Track shoe width	1400mm	1400mm
J	Undercarriage width	7400mm	7400mm
K	Track height	2730mm	2730mm

Hydraulic General Dimensions
Mining Excavators

EX8000-6,EX8000E-6



EX8000-7



Illustrations show(Cummins FCO) diesel engine type.

		EX8000-6	EX8000-7
A	Distance between tumblers	7900mm	7900mm
B	Undercarriage length	10500mm	10500mm
C	Counterweight clearance	3430mm	3430mm
D	Rear-end swing radius	8280mm	8480mm
D'	Rear-end length	8010mm	8210mm
E	Overall width of upper structure	10670mm	11460mm
F	Overall height of cab	9900mm	9900mm
G	Minimum ground clearance	1250mm	1250mm
H	Track gauge	6800mm	6800mm
I	Track shoe width	1850mm	1850mm
J	Undercarriage width	8650mm	8650mm
K	Track height	3100mm	3100mm

Hydraulic Mining Excavators

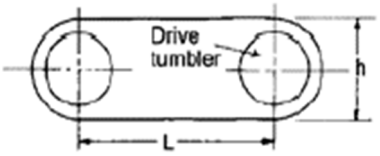
Ground Pressure

Ground pressure is the weight of a hydraulic excavator acting on a unit area of the ground, as determined below.

$$\text{Ground pressure} = \frac{\text{Operating weight}}{\text{Total ground contact area}}$$

*Total ground contact area = (L + 0.35h) × shoe width × 2

where, L: Center-to-center distance between tumblers
h: Height of crawler



Note that ground pressure under the rollers will be occasionally increased several times as calculated above.
Ground pressure is a good guideline to prejudge which size of hydraulic excavator can operate on soft ground or rough terrain without settlement.
Generally speaking, it is difficult to reduce the weights of major components from the design standpoint. Thus, there is the tendency that the greater the machine, the heavier the ground pressure.

Examples of ground pressure

	Example	Ground pressure bar (kgf cm², psi)
	Man (standing on one leg)	03 to 0.4 (0.3 to 0.4, 4 to 6)
	Automobile	1.2 to 2.4 (1.2 to 2.5, 17 to 35)
	Truck	2.5 to 7.5 (2.5 to 7.5, 35 to 110)
	Bulldozer	0.6 to 1.5 (0.6 to 1.5, 8 to 20)
	Hydraulic excavator	0.2 to 1.3 (0 2 to 1.3, 3 to 19)
	Wheeled excavator	4.5 to 5.0 (4.5 to 5.0, 65 to 70)
	Wheel loader	2.8 to 4.0 (2.8 to 4.0, 40 to 55)

Backhoe Configurations

Model	Emission certification	Engine model	Front	Track shoe type	Shoe width (mm)	Operating Weight (Kg)	Ground Pressure (kPa)	Ground Pressure (kgf/cm^2)
EX1200-6	Tier2	Cummins	Standard	Double Grousers	700	111000	142	1.45
					900	113000	112	1.14
			BE-front	Double Grousers	700	112000	143	1.46
					900	114000	113	1.15
EX1200-7	Tier4 Final	Cummins	Standard	Double Grousers	700	117000	148	1.51
					900	118000	116	1.19
			BE-front	Double Grousers	700	119000	150	1.53
					900	120000	118	1.21
	FCO	Cummins	Standard	Double Grousers	700	115000	145	1.48
					900	116000	114	1.17
			BE-front	Double Grousers	700	117000	148	1.51
					900	118000	116	1.19
EX1900-6	Tier2	Cummins	Standard	Triple Grousers	800	192000	184	1.88
EX2600-6	Tier2	Cummins	BE-front	Triple Grousers	1000	254000	185	1.89
EX2600-7	Tier4 Final	Cummins	BE-front	Triple Grousers	1000	257000	187	1.91
		MTU				259000	189	1.93
	FCO	Cummins				256000	187	1.91
		MTU				258000	188	1.92
EX3600-6	Tier2	Cummins	BE-front	Triple Grousers	1270	359000	188	1.92
EX3600-7	Tier4 Final	Cummins	BE-front	Triple Grousers	1270	370000	194	1.98
		MTU				367000	192	1.96
	FCO	Cummins				366000	192	1.96
		MTU				367000	192	1.96
EX5600-6	Tier2	Cummins	BE-front	Triple Grousers	1400	537000	236	2.41
EX5600-7	Tier4 Final	Cummins	BE-front	Triple Grousers	1400	549000	248	2.53
		MTU				553000	246	2.51
	FCO	Cummins				545000	244	2.49
		MTU				553000	248	2.53
EX8000-6	Tier2	Cummins	BE-front	Triple Grousers	1850	837000	252	2.57
EX8000-7	Tier4 Final	Cummins	BE-front	Triple Grousers	1850	842000	253	2.58
		MTU				840000	253	2.58
	FCO	Cummins				839000	252	2.57
		MTU				838000	252	2.57

Loading shovel Configurations

Model	Emission certification	Engine model	Front	Track shoe type	Shoe width (mm)	Operating Weight (Kg)	Ground Pressure (kPa)	Ground Pressure (kgf/cm^2)
EX1200-6	Tier2	Cummins	Standard	Double Grousers	700	114000	146	1.49
EX1200-7	Tier4 Final	Cummins	Standard	Double Grousers	700	118000	149	1.52
	FCO					117000	148	1.51
EX1900-6	Tier2	Cummins	Standard	Triple Grousers	800	191000	183	1.87
EX2600-6	Tier2	Cummins	Standard	Triple Grousers	1000	252000	183	1.87
EX2600-7	Tier 4 Final	Cummins	Standard	Triple Grousers	1000	259000	189	1.93
		MTU				261000	190	1.94
	FCO	Cummins				258000	188	1.92
		MTU				260000	189	1.93
EX3600-6	Tier2	Cummins	Standard	Triple Grousers	1270	362000	190	1.94
EX3600-7	Tier 4 Final	Cummins	Standard	Triple Grousers	1270	369000	193	1.97
		MTU				366000	192	1.96
	FCO	Cummins				365000	191	1.95
		MTU				366000	192	1.96
EX5600-6	Tier2	Cummins	Standard	Triple Grousers	1400	533000	234	2.39
EX5600-7	Tier 4 Final	Cummins	Standard	Triple Grousers	1400	544000	244	2.49
		MTU				549000	246	2.51
	FCO	Cummins				541000	242	2.47
		MTU				549000	246	2.51
EX8000-6	Tier2	Cummins	Standard	Triple Grousers	1850	825000	248	2.53
EX8000-7	Tier 4 Final	Cummins	Standard	Triple Grousers	1850	830000	250	2.55
		MTU				828000	249	2.54
	FCO	Cummins				827000	249	2.54
		MTU				826000	248	2.53

Hydraulic Mining Excavators

Ground Pressure(Electric drive)

- Backhoe Configurations
- Loading shovel Configurations

Backhoe Configurations

Model	Front	Track shoe type	Shoe width (mm)	Operating Weight (Kg)	Ground Pressure (kPa)	Ground Pressure (kgf/cm^2)
EX1900E-6	Standard	Triple Grousers	800	191000	183	1.87
EX2600E-6	BE-front	Triple Grousers	1000	250000	182	1.86
EX3600E-6	BE-front	Triple Grousers	1270	350000	184	1.88
EX5600E-6	BE-front	Triple Grousers	1400	531000	234	2.38
EX8000E-6	BE-front	Triple Grousers	1850	820000	247	2.52

Loading shovel Configurations

Model	Front	Track shoe type	Shoe width (mm)	Operating Weight (Kg)	Ground Pressure (kPa)	Ground Pressure (kgf/cm^2)
EX1900E-6	Standard	Triple Grousers	800	190000	182	1.86
EX2600E-6	Standard	Triple Grousers	1000	248000	180	1.84
EX3600E-6	Standard	Triple Grousers	1270	353000	185	1.89
EX5600E-6	Standard	Triple Grousers	1400	527000	232	2.37
EX8000E-6	Standard	Triple Grousers	1850	808000	243	2.48

Hydraulic Mining Excavators

Cycle time

The “cycle time” stated in this handbook defines “A complete working cycle” and it can be separated into four segments. Bucket fill/ Swing/ Dump/ Swing. This is an important factor for the production. The cycle time of each model is described on next page. These cycle times are prepared based on theoretical calculation from simulation and other method, measurements under certain conditions and our experience. The cycle time may be subject to significant change due to various factors such as operator skill, characteristic of digging subject materials, ground conditions, altitude, climate, etc. and the cycle time may change even if the Machine was operated under the same condition when the cycle time were collected. HCM cannot and does not guarantee that the Machine will perform exactly as the Data show under any condition. When you refer to this chart, please be careful about the following points.

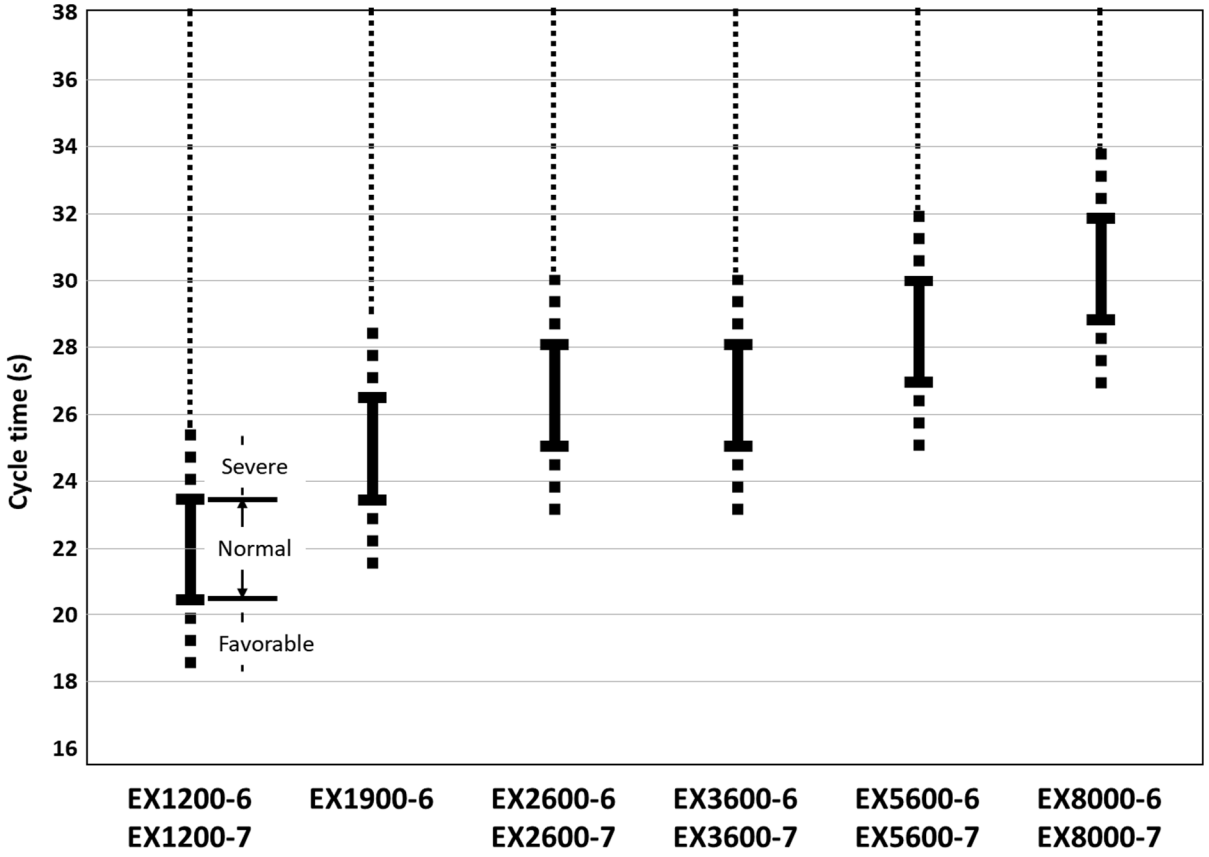
・Cycle times in this chart is the time in the case of operated by well skilled operator.
・Cycle times in this chart is the time under the following conditions.

	Backhoe excavator	**Loading excavator**
Swing angle	45°	60°
Digging(cutting) depth	Less than 60% of max digging depth	Less than 60% of max cutting height
Dump position	Well matched dump truck on the lower level	Well matched dump truck on the same level
Digging subject condition	Favorable	Favorable
	Normal	Normal
	Severe	Severe

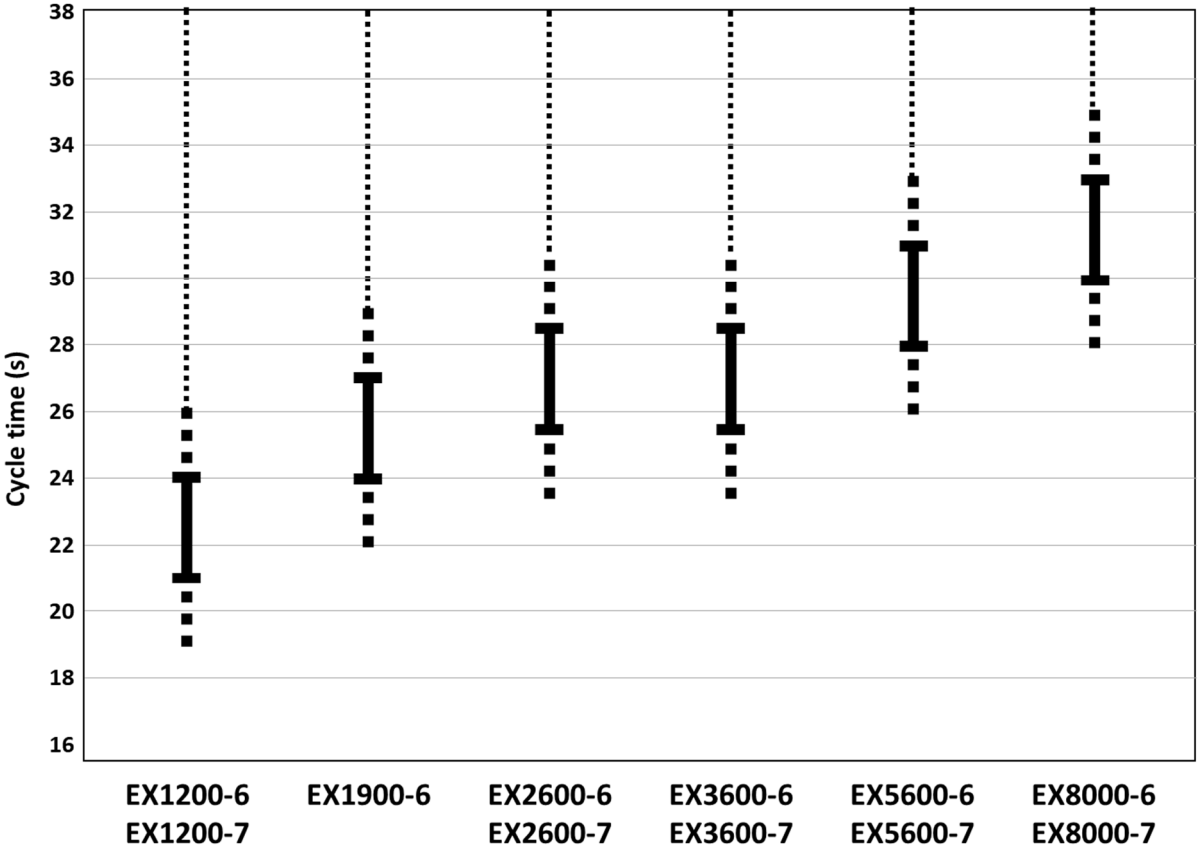
Digging subject condition is stated as following.

Favorable	・・・	Small impact to machine processing of low specific weight materials.
Normal	・・・	Continuous digging work in layer of clay.
Severe	・・・	High impact bedrock. Heavy digging work.

Cycle time Estimating chart（Backhoe)



Cycle time Estimating chart（Loading shovel)



Production Overviews

The productivity of hydraulic mining excavator depends on various factors as following.
・Machine specification
・Characteristics of digging subject material
・Operator skill
・Job efficiency
・Truck spotting time
Etc.

The following charts shows a rough estimation of the productivity (ton/hour) under various situations※ in the combination of Hitachi hydraulic excavator / trucks.

※The range of factors which are considered here is as following.
-Fill factor：70%～100%
-Truck spotting time：30(s)～75(s)
-Job efficiency[1)]：65%(39min./60min.)～90%(54min./60min.)
1)："Job efficiency" is not including truck spotting time. It includes only the time related with excavator such as excavator operator's skill.

EX1200-6(Backhoe)

Bucket size:6.7m^3, 4 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	12.1	48.2	18(s)	1822	1551	1350	1195	1680	1430	1245	1102	1478	1258	1095	969	1316	1120	975	863
			22(s)	1592	1381	1219	1091	1468	1273	1124	1007	1291	1120	989	885	1150	997	881	788
			26(s)	1413	1244	1112	1004	1303	1148	1025	926	1146	1009	902	815	1021	899	803	725
90%	10.9	43.4	18(s)	1639	1396	1215	1075	1512	1287	1120	992	1330	1132	985	872	1184	1008	877	777
			22(s)	1432	1243	1097	982	1321	1146	1012	906	1162	1008	890	797	1035	897	792	709
			26(s)	1272	1120	1000	904	1173	1033	923	834	1032	908	812	733	919	809	723	653
80%	9.6	38.6	18(s)	1457	1240	1080	956	1344	1144	996	882	1182	1006	876	775	1053	896	780	690
			22(s)	1273	1105	975	873	1174	1019	899	805	1033	896	791	708	920	798	704	631
			26(s)	1131	996	889	804	1043	918	820	741	917	807	721	652	817	719	642	580
70%	8.4	33.8	18(s)	1275	1085	945	836	1176	1001	871	771	1034	880	766	678	921	784	682	604
			22(s)	1114	967	853	764	1027	891	787	705	904	784	692	620	805	698	616	552
			26(s)	989	871	778	703	912	803	718	648	802	707	631	570	714	629	562	508

(t/hour)

EX1200-7(Backhoe)

Bucket size:7.0m^3, 4 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	12.6	50.4	18(s)	1903	1620	1410	1248	1755	1494	1300	1151	1544	1314	1144	1013	1375	1170	1018	902
			22(s)	1663	1443	1274	1140	1534	1330	1175	1052	1349	1170	1033	925	1201	1042	920	824
			26(s)	1476	1300	1161	1049	1362	1199	1071	968	1198	1055	942	851	1066	939	839	758
90%	11.3	45.4	18(s)	1713	1458	1269	1124	1580	1345	1170	1036	1389	1183	1029	911	1237	1053	917	811
			22(s)	1497	1298	1146	1026	1380	1197	1057	946	1214	1053	930	832	1081	938	828	741
			26(s)	1329	1170	1045	945	1225	1079	964	871	1078	949	848	766	960	845	755	682
80%	10.1	40.3	18(s)	1523	1296	1128	999	1404	1195	1040	921	1235	1051	915	810	1100	936	815	721
			22(s)	1330	1154	1019	912	1227	1064	940	841	1079	936	827	740	961	833	736	659
			26(s)	1181	1040	929	840	1089	959	857	774	958	844	754	681	853	751	671	606
70%	8.8	35.3	18(s)	1332	1134	987	874	1229	1046	910	806	1081	920	801	709	962	819	713	631
			22(s)	1164	1010	892	798	1073	931	822	736	944	819	723	647	841	729	644	577
			26(s)	1034	910	813	735	953	839	750	677	838	738	659	596	746	657	587	531

(t/hour)

EX1900-6,EX1900E-6(Backhoe)

Bucket size:12m^3, 5 pass to Dump truck, Material Density: 1.8ton/m^3

			Job efficiency(%)	90%				83%				73%				65%			
Fill factor (%)	Load per bucket(t)	Load per truck(t)	Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	21.6	108.0	21(s)	3014	2669	2395	2172	2780	2462	2209	2003	2445	2165	1943	1762	2177	1928	1730	1569
			25(s)	2641	2372	2153	1971	2436	2188	1986	1818	2142	1924	1747	1599	1907	1713	1555	1424
			29(s)	2350	2135	1956	1805	2167	1969	1804	1664	1906	1732	1586	1464	1697	1542	1413	1303
90%	19.4	97.2	21(s)	2713	2402	2156	1955	2502	2215	1988	1803	2200	1948	1748	1586	1959	1735	1557	1412
			25(s)	2377	2135	1938	1774	2192	1969	1787	1636	1928	1732	1572	1439	1717	1542	1400	1281
			29(s)	2115	1921	1760	1624	1951	1772	1623	1498	1716	1559	1428	1317	1528	1388	1271	1173
80%	17.3	86.4	21(s)	2411	2135	1916	1738	2224	1969	1767	1603	1956	1732	1554	1409	1741	1542	1384	1255
			25(s)	2113	1898	1723	1577	1948	1750	1589	1454	1714	1539	1397	1279	1526	1371	1244	1139
			29(s)	1880	1708	1565	1444	1734	1575	1443	1331	1525	1385	1269	1171	1358	1234	1130	1043
70%	15.1	75.6	21(s)	2110	1868	1677	1520	1946	1723	1546	1402	1711	1515	1360	1233	1524	1349	1211	1098
			25(s)	1849	1661	1507	1380	1705	1531	1390	1273	1499	1347	1223	1119	1335	1199	1089	997
			29(s)	1645	1494	1369	1263	1517	1378	1263	1165	1334	1212	1111	1025	1188	1079	989	912

(t/hour)

EX2600-6,EX2600E-6(Backhoe)

Bucket size:17m^3, 7 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	30.6	214.2	23(s)	4150	3808	3518	3270	3827	3512	3245	3015	3366	3089	2854	2652	2997	2750	2541	2361
			27(s)	3621	3358	3131	2933	3340	3097	2888	2705	2937	2724	2540	2379	2615	2425	2261	2118
			31(s)	3212	3004	2821	2659	2962	2770	2601	2452	2605	2436	2288	2156	2320	2169	2037	1920
90%	27.5	192.8	23(s)	3735	3427	3167	2943	3444	3161	2920	2714	3029	2780	2568	2387	2697	2475	2287	2125
			27(s)	3259	3023	2818	2639	3006	2787	2599	2434	2643	2452	2286	2141	2354	2183	2035	1906
			31(s)	2891	2703	2539	2393	2666	2493	2341	2207	2345	2193	2059	1941	2088	1952	1833	1728
80%	24.5	171.4	23(s)	3320	3046	2815	2616	3061	2809	2596	2412	2693	2471	2283	2122	2398	2200	2033	1889
			27(s)	2897	2687	2505	2346	2672	2478	2310	2164	2350	2179	2032	1903	2092	1940	1809	1694
			31(s)	2570	2403	2256	2127	2370	2216	2081	1961	2084	1949	1830	1725	1856	1735	1630	1536
70%	21.4	149.9	23(s)	2905	2666	2463	2289	2679	2458	2271	2111	2356	2162	1998	1857	2098	1925	1779	1653
			27(s)	2535	2351	2192	2053	2338	2168	2021	1893	2056	1907	1778	1665	1831	1698	1583	1483
			31(s)	2249	2103	1974	1861	2074	1939	1821	1716	1824	1705	1601	1509	1624	1519	1426	1344

(t/hour)

EX2600-7(Backhoe)

Bucket size:17m^3, 7 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	30.6	214.2	23(s)	4150	3808	3518	3270	3827	3512	3245	3015	3366	3089	2854	2652	2997	2750	2541	2361
			27(s)	3621	3358	3131	2933	3340	3097	2888	2705	2937	2724	2540	2379	2615	2425	2261	2118
			31(s)	3212	3004	2821	2659	2962	2770	2601	2452	2605	2436	2288	2156	2320	2169	2037	1920
90%	27.5	192.8	23(s)	3735	3427	3167	2943	3444	3161	2920	2714	3029	2780	2568	2387	2697	2475	2287	2125
			27(s)	3259	3023	2818	2639	3006	2787	2599	2434	2643	2452	2286	2141	2354	2183	2035	1906
			31(s)	2891	2703	2539	2393	2666	2493	2341	2207	2345	2193	2059	1941	2088	1952	1833	1728
80%	24.5	171.4	23(s)	3320	3046	2815	2616	3061	2809	2596	2412	2693	2471	2283	2122	2398	2200	2033	1889
			27(s)	2897	2687	2505	2346	2672	2478	2310	2164	2350	2179	2032	1903	2092	1940	1809	1694
			31(s)	2570	2403	2256	2127	2370	2216	2081	1961	2084	1949	1830	1725	1856	1735	1630	1536
70%	21.4	149.9	23(s)	2905	2666	2463	2289	2679	2458	2271	2111	2356	2162	1998	1857	2098	1925	1779	1653
			27(s)	2535	2351	2192	2053	2338	2168	2021	1893	2056	1907	1778	1665	1831	1698	1583	1483
			31(s)	2249	2103	1974	1861	2074	1939	1821	1716	1824	1705	1601	1509	1624	1519	1426	1344

(t/hour)

EX3600-6,EX3600E-6(Backhoe)

Bucket size:22m^3, 5 pass to Dump truck, Material Density: 1.8ton/m^3

			Job efficiency(%)	90%				83%				73%				65%			
Fill factor (%)	Load per bucket(t)	Load per truck(t)	Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	39.6	198.0	23(s)	5248	4674	4214	3836	4839	4311	3886	3537	4256	3791	3418	3111	3790	3376	3043	2770
			27(s)	4627	4175	3804	3493	4267	3850	3508	3221	3753	3387	3085	2833	3342	3015	2747	2523
			31(s)	4138	3773	3467	3207	3816	3479	3197	2957	3356	3060	2812	2601	2988	2725	2504	2316
90%	35.6	178.2	23(s)	4723	4207	3792	3452	4356	3880	3497	3184	3831	3412	3076	2800	3411	3038	2739	2493
			27(s)	4164	3758	3423	3144	3840	3465	3157	2899	3378	3048	2777	2550	3007	2714	2473	2271
			31(s)	3724	3395	3120	2886	3434	3131	2877	2662	3020	2754	2531	2341	2689	2452	2253	2084
80%	31.7	158.4	23(s)	4198	3739	3371	3069	3872	3448	3109	2830	3405	3033	2734	2489	3032	2701	2435	2216
			27(s)	3702	3340	3043	2795	3414	3080	2806	2577	3002	2709	2468	2267	2673	2412	2198	2018
			31(s)	3310	3018	2773	2565	3053	2783	2558	2366	2685	2448	2250	2081	2391	2180	2003	1853
70%	27.7	138.6	23(s)	3673	3272	2950	2685	3388	3017	2720	2476	2979	2654	2392	2178	2653	2363	2130	1939
			27(s)	3239	2923	2663	2445	2987	2695	2456	2255	2627	2371	2160	1983	2339	2111	1923	1766
			31(s)	2896	2641	2427	2245	2671	2435	2238	2070	2349	2142	1968	1821	2092	1907	1753	1621

(t/hour)

EX3600-7(Backhoe)

Bucket size:22m^3, 5 pass to Dump truck, Material Density: 1.8ton/m^3

			Job efficiency(%)	90%				83%				73%				65%			
Fill factor (%)	Load per bucket(t)	Load per truck(t)	Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	39.6	198.0	23(s)	5248	4674	4214	3836	4839	4311	3886	3537	4256	3791	3418	3111	3790	3376	3043	2770
			27(s)	4627	4175	3804	3493	4267	3850	3508	3221	3753	3387	3085	2833	3342	3015	2747	2523
			31(s)	4138	3773	3467	3207	3816	3479	3197	2957	3356	3060	2812	2601	2988	2725	2504	2316
90%	35.6	178.2	23(s)	4723	4207	3792	3452	4356	3880	3497	3184	3831	3412	3076	2800	3411	3038	2739	2493
			27(s)	4164	3758	3423	3144	3840	3465	3157	2899	3378	3048	2777	2550	3007	2714	2473	2271
			31(s)	3724	3395	3120	2886	3434	3131	2877	2662	3020	2754	2531	2341	2689	2452	2253	2084
80%	31.7	158.4	23(s)	4198	3739	3371	3069	3872	3448	3109	2830	3405	3033	2734	2489	3032	2701	2435	2216
			27(s)	3702	3340	3043	2795	3414	3080	2806	2577	3002	2709	2468	2267	2673	2412	2198	2018
			31(s)	3310	3018	2773	2565	3053	2783	2558	2366	2685	2448	2250	2081	2391	2180	2003	1853
70%	27.7	138.6	23(s)	3673	3272	2950	2685	3388	3017	2720	2476	2979	2654	2392	2178	2653	2363	2130	1939
			27(s)	3239	2923	2663	2445	2987	2695	2456	2255	2627	2371	2160	1983	2339	2111	1923	1766
			31(s)	2896	2641	2427	2245	2671	2435	2238	2070	2349	2142	1968	1821	2092	1907	1753	1621

(t/hour)

EX5600-6,EX5600E-6(Backhoe)

Bucket size:34m^3, 5 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	61.2	306.0	25(s)	7600	6816	6179	5651	7009	6286	5699	5211	6165	5529	5012	4583	5489	4923	4463	4081
			29(s)	6751	6126	5606	5168	6226	5649	5170	4766	5476	4969	4547	4192	4876	4424	4049	3732
			33(s)	6073	5562	5130	4761	5601	5129	4731	4391	4926	4511	4161	3862	4386	4017	3705	3438
90%	55.1	275.4	25(s)	6840	6135	5561	5086	6308	5658	5129	4690	5548	4976	4511	4125	4940	4431	4016	3673
			29(s)	6076	5513	5045	4651	5604	5084	4653	4289	4929	4472	4092	3772	4388	3982	3644	3359
			33(s)	5466	5006	4617	4285	5041	4617	4258	3951	4433	4060	3745	3475	3948	3615	3335	3095
80%	49.0	244.8	25(s)	6080	5453	4943	4521	5607	5029	4559	4169	4932	4423	4010	3667	4391	3938	3570	3265
			29(s)	5401	4901	4485	4134	4981	4519	4136	3813	4381	3975	3638	3353	3901	3539	3239	2986
			33(s)	4859	4450	4104	3809	4481	4104	3785	3512	3941	3609	3329	3089	3509	3214	2964	2751
70%	42.8	214.2	25(s)	5320	4771	4325	3956	4906	4400	3989	3648	4315	3870	3508	3208	3842	3446	3124	2857
			29(s)	4726	4288	3924	3617	4358	3954	3619	3336	3833	3478	3183	2934	3413	3097	2834	2613
			33(s)	4251	3893	3591	3333	3921	3591	3312	3073	3448	3158	2913	2703	3070	2812	2594	2407

(t/hour)

EX5600-7(Backhoe)

Bucket size:34m^3, 5 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	61.2	306.0	25(s)	7600	6816	6179	5651	7009	6286	5699	5211	6165	5529	5012	4583	5489	4923	4463	4081
			29(s)	6751	6126	5606	5168	6226	5649	5170	4766	5476	4969	4547	4192	4876	4424	4049	3732
			33(s)	6073	5562	5130	4761	5601	5129	4731	4391	4926	4511	4161	3862	4386	4017	3705	3438
90%	55.1	275.4	25(s)	6840	6135	5561	5086	6308	5658	5129	4690	5548	4976	4511	4125	4940	4431	4016	3673
			29(s)	6076	5513	5045	4651	5604	5084	4653	4289	4929	4472	4092	3772	4388	3982	3644	3359
			33(s)	5466	5006	4617	4285	5041	4617	4258	3951	4433	4060	3745	3475	3948	3615	3335	3095
80%	49.0	244.8	25(s)	6080	5453	4943	4521	5607	5029	4559	4169	4932	4423	4010	3667	4391	3938	3570	3265
			29(s)	5401	4901	4485	4134	4981	4519	4136	3813	4381	3975	3638	3353	3901	3539	3239	2986
			33(s)	4859	4450	4104	3809	4481	4104	3785	3512	3941	3609	3329	3089	3509	3214	2964	2751
70%	42.8	214.2	25(s)	5320	4771	4325	3956	4906	4400	3989	3648	4315	3870	3508	3208	3842	3446	3124	2857
			29(s)	4726	4288	3924	3617	4358	3954	3619	3336	3833	3478	3183	2934	3413	3097	2834	2613
			33(s)	4251	3893	3591	3333	3921	3591	3312	3073	3448	3158	2913	2703	3070	2812	2594	2407

(t/hour)

EX8000-6,EX8000E-6(Backhoe)

Bucket size:43m^3, 4 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	77.4	309.6	27(s)	8944	7889	7057	6383	8249	7276	6508	5887	7255	6399	5724	5177	6460	5698	5096	4610
			31(s)	8054	7188	6490	5916	7427	6629	5986	5456	6533	5830	5265	4799	5817	5191	4688	4273
			35(s)	7325	6602	6008	5513	6755	6088	5541	5084	5941	5355	4873	4472	5290	4768	4339	3982
90%	69.7	278.6	27(s)	8050	7100	6351	5745	7424	6548	5857	5298	6529	5759	5151	4660	5814	5128	4587	4149
			31(s)	7248	6469	5841	5325	6685	5966	5387	4911	5879	5247	4738	4319	5235	4672	4219	3846
			35(s)	6592	5941	5408	4962	6079	5479	4987	4576	5347	4819	4386	4025	4761	4291	3905	3583
80%	61.9	247.7	27(s)	7155	6311	5645	5106	6599	5820	5206	4709	5804	5119	4579	4142	5168	4558	4077	3688
			31(s)	6443	5751	5192	4733	5942	5303	4789	4365	5226	4664	4212	3839	4653	4153	3750	3418
			35(s)	5860	5281	4807	4410	5404	4870	4433	4067	4753	4284	3899	3577	4232	3814	3472	3185
70%	54.2	216.7	27(s)	6261	5522	4940	4468	5774	5093	4555	4121	5078	4479	4007	3624	4522	3988	3568	3227
			31(s)	5638	5032	4543	4141	5199	4640	4190	3819	4573	4081	3685	3359	4072	3634	3281	2991
			35(s)	5127	4621	4206	3859	4728	4262	3879	3559	4159	3748	3411	3130	3703	3337	3038	2787

(t/hour)

EX8000-7(Backhoe)

Bucket size:43m^3, 4 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	77.4	309.6	27(s)	8944	7889	7057	6383	8249	7276	6508	5887	7255	6399	5724	5177	6460	5698	5096	4610
			31(s)	8054	7188	6490	5916	7427	6629	5986	5456	6533	5830	5265	4799	5817	5191	4688	4273
			35(s)	7325	6602	6008	5513	6755	6088	5541	5084	5941	5355	4873	4472	5290	4768	4339	3982
90%	69.7	278.6	27(s)	8050	7100	6351	5745	7424	6548	5857	5298	6529	5759	5151	4660	5814	5128	4587	4149
			31(s)	7248	6469	5841	5325	6685	5966	5387	4911	5879	5247	4738	4319	5235	4672	4219	3846
			35(s)	6592	5941	5408	4962	6079	5479	4987	4576	5347	4819	4386	4025	4761	4291	3905	3583
80%	61.9	247.7	27(s)	7155	6311	5645	5106	6599	5820	5206	4709	5804	5119	4579	4142	5168	4558	4077	3688
			31(s)	6443	5751	5192	4733	5942	5303	4789	4365	5226	4664	4212	3839	4653	4153	3750	3418
			35(s)	5860	5281	4807	4410	5404	4870	4433	4067	4753	4284	3899	3577	4232	3814	3472	3185
70%	54.2	216.7	27(s)	6261	5522	4940	4468	5774	5093	4555	4121	5078	4479	4007	3624	4522	3988	3568	3227
			31(s)	5638	5032	4543	4141	5199	4640	4190	3819	4573	4081	3685	3359	4072	3634	3281	2991
			35(s)	5127	4621	4206	3859	4728	4262	3879	3559	4159	3748	3411	3130	3703	3337	3038	2787

(t/hour)

EX1200-6(Loading shovel)

Bucket size:6.5m^3, 6 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	11.7	46.8	19(s)	1736	1482	1292	1146	1601	1366	1192	1057	1408	1202	1048	929	1254	1070	933	827
			23(s)	1520	1321	1169	1048	1402	1219	1078	966	1233	1072	948	850	1098	954	844	757
			27(s)	1352	1193	1067	965	1247	1100	984	890	1097	967	865	783	976	861	770	697
90%	10.5	42.1	19(s)	1562	1333	1163	1031	1441	1230	1072	951	1267	1081	943	836	1128	963	840	745
			23(s)	1368	1189	1052	943	1262	1097	970	869	1110	965	853	765	988	859	760	681
			27(s)	1217	1073	960	868	1122	990	885	801	987	871	779	704	879	775	693	627
80%	9.4	37.4	19(s)	1389	1185	1034	917	1281	1093	953	845	1126	961	838	743	1003	856	747	662
			23(s)	1216	1057	935	838	1122	975	862	773	986	857	758	680	878	763	675	605
			27(s)	1082	954	853	772	998	880	787	712	877	774	692	626	781	689	616	557
70%	8.2	32.8	19(s)	1215	1037	904	802	1121	956	834	740	986	841	734	650	878	749	653	579
			23(s)	1064	925	818	733	981	853	754	676	863	750	664	595	769	668	591	530
			27(s)	946	835	747	675	873	770	689	623	768	677	606	548	684	603	539	488

(t/hour)

EX1200-7(Loading shovel)

Bucket size:6.5m^3, 6 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	11.7	46.8	19(s)	1736	1482	1292	1146	1601	1366	1192	1057	1408	1202	1048	929	1254	1070	933	827
			23(s)	1520	1321	1169	1048	1402	1219	1078	966	1233	1072	948	850	1098	954	844	757
			27(s)	1352	1193	1067	965	1247	1100	984	890	1097	967	865	783	976	861	770	697
90%	10.5	42.1	19(s)	1562	1333	1163	1031	1441	1230	1072	951	1267	1081	943	836	1128	963	840	745
			23(s)	1368	1189	1052	943	1262	1097	970	869	1110	965	853	765	988	859	760	681
			27(s)	1217	1073	960	868	1122	990	885	801	987	871	779	704	879	775	693	627
80%	9.4	37.4	19(s)	1389	1185	1034	917	1281	1093	953	845	1126	961	838	743	1003	856	747	662
			23(s)	1216	1057	935	838	1122	975	862	773	986	857	758	680	878	763	675	605
			27(s)	1082	954	853	772	998	880	787	712	877	774	692	626	781	689	616	557
70%	8.2	32.8	19(s)	1215	1037	904	802	1121	956	834	740	986	841	734	650	878	749	653	579
			23(s)	1064	925	818	733	981	853	754	676	863	750	664	595	769	668	591	530
			27(s)	946	835	747	675	873	770	689	623	768	677	606	548	684	603	539	488

(t/hour)

EX1900-6,EX1900E-6(Loading shovel)

Bucket size:11m^3, 5 pass to Dump truck, Material Density: 1.8ton/m^3

			Job efficiency(%)	90%				83%				73%				65%			
Fill factor (%)	Load per bucket(t)	Load per truck(t)	Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	19.8	99.0	22(s)	2715	2409	2165	1966	2504	2222	1997	1813	2202	1954	1756	1595	1961	1740	1564	1420
			26(s)	2384	2145	1949	1786	2199	1978	1798	1648	1934	1740	1581	1449	1722	1549	1408	1290
			30(s)	2125	1933	1773	1637	1960	1783	1635	1510	1724	1568	1438	1328	1535	1396	1280	1182
90%	17.8	89.1	22(s)	2443	2168	1949	1769	2253	1999	1797	1632	1982	1759	1581	1435	1765	1566	1407	1278
			26(s)	2146	1930	1754	1608	1979	1780	1618	1483	1740	1566	1423	1304	1550	1394	1267	1161
			30(s)	1912	1740	1595	1473	1764	1604	1471	1359	1551	1411	1294	1195	1381	1256	1152	1064
80%	15.8	79.2	22(s)	2172	1927	1732	1573	2003	1777	1597	1451	1762	1563	1405	1276	1569	1392	1251	1136
			26(s)	1907	1716	1559	1429	1759	1582	1438	1318	1547	1392	1265	1159	1377	1239	1126	1032
			30(s)	1700	1546	1418	1310	1568	1426	1308	1208	1379	1254	1150	1062	1228	1117	1024	946
70%	13.9	69.3	22(s)	1900	1686	1516	1376	1753	1555	1398	1269	1541	1368	1229	1116	1373	1218	1095	994
			26(s)	1669	1501	1365	1251	1539	1385	1258	1153	1354	1218	1107	1014	1205	1084	985	903
			30(s)	1487	1353	1241	1146	1372	1248	1144	1057	1206	1097	1006	929	1074	977	896	828

(t/hour)

EX2600-6,EX2600E-6(Loading shovel)

Bucket size:15m^3, 5 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	27.0	189.0	23(s)	3596	3305	3057	2844	3316	3048	2819	2623	2917	2680	2480	2307	2597	2387	2208	2054
			27(s)	3145	2920	2725	2555	2901	2693	2513	2356	2551	2369	2210	2072	2271	2109	1968	1845
			31(s)	2795	2616	2458	2319	2578	2412	2267	2138	2267	2122	1994	1881	2019	1889	1775	1675
90%	24.3	170.1	23(s)	3236	2974	2751	2560	2984	2743	2537	2361	2625	2412	2232	2076	2337	2148	1987	1849
			27(s)	2831	2628	2453	2299	2610	2424	2262	2120	2296	2132	1989	1865	2044	1898	1771	1661
			31(s)	2515	2354	2212	2087	2320	2171	2040	1924	2040	1910	1795	1693	1817	1700	1598	1507
80%	21.6	151.2	23(s)	2877	2644	2446	2275	2653	2438	2256	2098	2333	2144	1984	1846	2078	1909	1766	1643
			27(s)	2516	2336	2180	2044	2320	2154	2011	1885	2041	1895	1768	1658	1817	1687	1575	1476
			31(s)	2236	2093	1967	1855	2062	1930	1814	1711	1814	1697	1595	1505	1615	1511	1420	1340
70%	18.9	132.3	23(s)	2517	2313	2140	1991	2321	2133	1974	1836	2042	1876	1736	1615	1818	1671	1546	1438
			27(s)	2202	2044	1908	1788	2030	1885	1759	1649	1786	1658	1547	1450	1590	1476	1378	1292
			31(s)	1956	1831	1721	1623	1804	1689	1587	1497	1587	1485	1396	1316	1413	1322	1243	1172

(t/hour)

EX2600-7(Loading shovel)

Bucket size:15m^3, 5 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	27.0	189.0	23(s)	3596	3305	3057	2844	3316	3048	2819	2623	2917	2680	2480	2307	2597	2387	2208	2054
			27(s)	3145	2920	2725	2555	2901	2693	2513	2356	2551	2369	2210	2072	2271	2109	1968	1845
			31(s)	2795	2616	2458	2319	2578	2412	2267	2138	2267	2122	1994	1881	2019	1889	1775	1675
90%	24.3	170.1	23(s)	3236	2974	2751	2560	2984	2743	2537	2361	2625	2412	2232	2076	2337	2148	1987	1849
			27(s)	2831	2628	2453	2299	2610	2424	2262	2120	2296	2132	1989	1865	2044	1898	1771	1661
			31(s)	2515	2354	2212	2087	2320	2171	2040	1924	2040	1910	1795	1693	1817	1700	1598	1507
80%	21.6	151.2	23(s)	2877	2644	2446	2275	2653	2438	2256	2098	2333	2144	1984	1846	2078	1909	1766	1643
			27(s)	2516	2336	2180	2044	2320	2154	2011	1885	2041	1895	1768	1658	1817	1687	1575	1476
			31(s)	2236	2093	1967	1855	2062	1930	1814	1711	1814	1697	1595	1505	1615	1511	1420	1340
70%	18.9	132.3	23(s)	2517	2313	2140	1991	2321	2133	1974	1836	2042	1876	1736	1615	1818	1671	1546	1438
			27(s)	2202	2044	1908	1788	2030	1885	1759	1649	1786	1658	1547	1450	1590	1476	1378	1292
			31(s)	1956	1831	1721	1623	1804	1689	1587	1497	1587	1485	1396	1316	1413	1322	1243	1172

(t/hour)

EX3600-6,EX3600E-6(Loading shovel)

Bucket size:21m^3, 5 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	37.8	189.0	23(s)	4926	4396	3969	3617	4543	4054	3660	3336	3996	3566	3219	2934	3558	3175	2866	2612
			27(s)	4352	3933	3587	3298	4014	3627	3308	3041	3530	3190	2910	2675	3143	2840	2591	2382
			31(s)	3898	3558	3273	3030	3595	3281	3018	2794	3162	2886	2655	2458	2815	2570	2364	2188
90%	34.0	170.1	23(s)	4434	3956	3572	3255	4089	3649	3294	3002	3596	3209	2897	2640	3202	2857	2580	2351
			27(s)	3917	3540	3229	2968	3612	3264	2977	2737	3177	2871	2619	2407	2829	2556	2332	2143
			31(s)	3508	3202	2946	2727	3235	2953	2717	2515	2845	2597	2389	2212	2534	2313	2127	1969
80%	30.2	151.2	23(s)	3941	3517	3175	2894	3635	3243	2928	2669	3197	2853	2575	2347	2846	2540	2293	2090
			27(s)	3482	3146	2870	2638	3211	2902	2647	2433	2824	2552	2328	2140	2515	2272	2073	1905
			31(s)	3118	2847	2618	2424	2876	2625	2415	2235	2529	2309	2124	1966	2252	2056	1891	1751
70%	26.5	132.3	23(s)	3449	3077	2778	2532	3180	2838	2562	2335	2797	2496	2253	2054	2491	2222	2006	1829
			27(s)	3047	2753	2511	2308	2810	2539	2316	2129	2471	2233	2037	1872	2200	1988	1814	1667
			31(s)	2729	2491	2291	2121	2516	2297	2113	1956	2213	2020	1858	1720	1971	1799	1655	1532

(t/hour)

EX3600-7(Loading shovel)

Bucket size:22m^3, 5 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	39.6	198.0	23(s)	5161	4605	4158	3789	4760	4247	3834	3495	4186	3735	3372	3074	3727	3326	3003	2737
			27(s)	4559	4120	3758	3455	4205	3800	3466	3186	3698	3342	3048	2802	3293	2976	2714	2495
			31(s)	4084	3728	3429	3174	3766	3438	3162	2927	3312	3023	2781	2575	2949	2692	2476	2293
90%	35.6	178.2	23(s)	4645	4145	3742	3410	4284	3822	3451	3145	3768	3362	3035	2766	3355	2993	2702	2463
			27(s)	4104	3708	3382	3109	3784	3420	3119	2867	3328	3008	2743	2522	2964	2678	2443	2245
			31(s)	3675	3355	3086	2857	3389	3094	2846	2635	2981	2721	2503	2317	2654	2423	2229	2063
80%	31.7	158.4	23(s)	4129	3684	3326	3031	3808	3398	3067	2796	3349	2988	2698	2459	2982	2661	2402	2189
			27(s)	3648	3296	3007	2764	3364	3040	2773	2549	2959	2674	2439	2242	2634	2381	2171	1996
			31(s)	3267	2982	2743	2539	3013	2750	2530	2342	2650	2419	2225	2060	2359	2154	1981	1834
70%	27.7	138.6	23(s)	3613	3224	2910	2652	3332	2973	2684	2446	2930	2615	2361	2151	2609	2328	2102	1916
			27(s)	3192	2884	2631	2418	2943	2660	2426	2230	2589	2339	2134	1961	2305	2083	1900	1746
			31(s)	2858	2609	2400	2222	2636	2406	2213	2049	2319	2116	1947	1802	2064	1885	1733	1605

(t/hour)

EX5600-6,EX5600E-6(Loading shovel)

Bucket size:29m^3, 4 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	52.2	313.2	26(s)	6340	5797	5339	4949	5847	5346	4924	4564	5143	4702	4331	4014	4579	4187	3856	3574
			30(s)	5624	5192	4822	4501	5186	4788	4447	4151	4561	4211	3911	3651	4061	3750	3482	3251
			34(s)	5052	4701	4396	4128	4659	4336	4054	3807	4098	3813	3565	3348	3649	3395	3175	2981
90%	47.0	281.9	26(s)	5706	5217	4806	4454	5262	4812	4432	4108	4628	4232	3898	3613	4121	3768	3471	3217
			30(s)	5061	4673	4340	4051	4668	4309	4002	3736	4105	3790	3520	3286	3655	3375	3134	2926
			34(s)	4547	4231	3956	3715	4193	3902	3649	3426	3688	3432	3209	3013	3284	3056	2857	2683
80%	41.8	250.6	26(s)	5072	4638	4272	3959	4678	4277	3939	3651	4114	3762	3465	3211	3663	3349	3085	2859
			30(s)	4499	4154	3858	3601	4149	3831	3557	3321	3649	3369	3129	2921	3249	3000	2786	2601
			34(s)	4042	3761	3517	3302	3728	3468	3243	3045	3278	3051	2852	2678	2919	2716	2540	2385
70%	36.5	219.2	26(s)	4438	4058	3738	3464	4093	3742	3447	3195	3600	3291	3032	2810	3205	2931	2699	2502
			30(s)	3936	3634	3375	3151	3630	3352	3113	2906	3193	2948	2738	2556	2843	2625	2438	2276
			34(s)	3537	3291	3077	2889	3262	3035	2838	2665	2869	2669	2496	2344	2554	2377	2222	2087

(t/hour)

EX5600-7(Loading shovel)

Bucket size:29m^3, 4 pass to Dump truck, Material Density: 1.8ton/m^3

Fill factor (%)	Load per bucket(t)	Load per truck(t)	Job efficiency(%)	90%				83%				73%				65%			
			Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	52.2	313.2	26(s)	6340	5797	5339	4949	5847	5346	4924	4564	5143	4702	4331	4014	4579	4187	3856	3574
			30(s)	5624	5192	4822	4501	5186	4788	4447	4151	4561	4211	3911	3651	4061	3750	3482	3251
			34(s)	5052	4701	4396	4128	4659	4336	4054	3807	4098	3813	3565	3348	3649	3395	3175	2981
90%	47.0	281.9	26(s)	5706	5217	4806	4454	5262	4812	4432	4108	4628	4232	3898	3613	4121	3768	3471	3217
			30(s)	5061	4673	4340	4051	4668	4309	4002	3736	4105	3790	3520	3286	3655	3375	3134	2926
			34(s)	4547	4231	3956	3715	4193	3902	3649	3426	3688	3432	3209	3013	3284	3056	2857	2683
80%	41.8	250.6	26(s)	5072	4638	4272	3959	4678	4277	3939	3651	4114	3762	3465	3211	3663	3349	3085	2859
			30(s)	4499	4154	3858	3601	4149	3831	3557	3321	3649	3369	3129	2921	3249	3000	2786	2601
			34(s)	4042	3761	3517	3302	3728	3468	3243	3045	3278	3051	2852	2678	2919	2716	2540	2385
70%	36.5	219.2	26(s)	4438	4058	3738	3464	4093	3742	3447	3195	3600	3291	3032	2810	3205	2931	2699	2502
			30(s)	3936	3634	3375	3151	3630	3352	3113	2906	3193	2948	2738	2556	2843	2625	2438	2276
			34(s)	3537	3291	3077	2889	3262	3035	2838	2665	2869	2669	2496	2344	2554	2377	2222	2087

(t/hour)

EX8000-6,EX8000E-6(Loading shovel)

Bucket size:40m^3, 4 pass to Dump truck, Material Density: 1.8ton/m^3

			Job efficiency(%)	90%				83%				73%				65%			
Fill factor (%)	Load per bucket(t)	Load per truck(t)	Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	72.0	288.0	28(s)	8096	7164	6424	5823	7467	6607	5925	5370	6567	5811	5211	4723	5847	5174	4640	4205
			32(s)	7310	6541	5919	5405	6741	6033	5459	4984	5929	5306	4801	4384	5279	4724	4275	3903
			36(s)	6663	6018	5487	5043	6145	5550	5061	4650	5404	4881	4451	4090	4812	4346	3963	3642
90%	64.8	259.2	28(s)	7287	6448	5782	5241	6720	5946	5332	4833	5910	5230	4690	4251	5263	4657	4176	3785
			32(s)	6579	5887	5327	4864	6067	5429	4913	4486	5336	4775	4321	3945	4751	4252	3847	3513
			36(s)	5996	5416	4939	4538	5530	4995	4554	4185	4864	4393	4006	3681	4331	3912	3567	3278
80%	57.6	230.4	28(s)	6477	5731	5139	4658	5973	5285	4740	4296	5254	4649	4169	3778	4678	4139	3712	3364
			32(s)	5848	5233	4735	4324	5393	4826	4367	3987	4743	4245	3841	3507	4224	3779	3420	3123
			36(s)	5330	4815	4390	4034	4916	4440	4048	3720	4323	3905	3561	3272	3850	3477	3170	2913
70%	50.4	201.6	28(s)	5668	5015	4497	4076	5227	4625	4147	3759	4597	4068	3648	3306	4093	3622	3248	2944
			32(s)	5117	4579	4143	3783	4719	4223	3821	3489	4150	3714	3361	3069	3696	3307	2992	2732
			36(s)	4664	4213	3841	3530	4301	3885	3542	3255	3783	3417	3116	2863	3368	3043	2774	2549

(t/hour)

EX8000-7(Loading shovel)

Bucket size:43m^3, 4 pass to Dump truck, Material Density: 1.8ton/m^3

			Job efficiency(%)	90%				83%				73%				65%			
Fill factor (%)	Load per bucket(t)	Load per truck(t)	Truck Spotting / Cycle time	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)	30(s)	45(s)	60(s)	75(s)
100%	77.4	309.6	28(s)	8704	7701	6906	6260	8027	7102	6369	5773	7060	6247	5602	5077	6286	5562	4988	4521
			32(s)	7858	7032	6363	5810	7247	6485	5868	5358	6374	5704	5161	4713	5675	5079	4595	4196
			36(s)	7162	6470	5899	5421	6605	5966	5440	4999	5810	5248	4785	4397	5173	4672	4260	3915
90%	69.7	278.6	28(s)	7833	6931	6215	5634	7224	6392	5732	5195	6354	5622	5041	4570	5657	5006	4489	4069
			32(s)	7072	6329	5727	5229	6522	5836	5281	4822	5737	5133	4645	4241	5108	4571	4136	3777
			36(s)	6446	5823	5309	4879	5945	5370	4896	4499	5229	4723	4306	3957	4656	4205	3834	3523
80%	61.9	247.7	28(s)	6963	6161	5525	5008	6421	5682	5095	4618	5648	4997	4481	4062	5029	4450	3990	3617
			32(s)	6287	5626	5090	4648	5798	5188	4694	4287	5099	4563	4129	3770	4540	4063	3676	3357
			36(s)	5730	5176	4719	4337	5284	4773	4352	3999	4648	4198	3828	3517	4138	3738	3408	3132
70%	54.2	216.7	28(s)	6093	5391	4834	4382	5619	4972	4458	4041	4942	4373	3921	3554	4400	3893	3491	3165
			32(s)	5501	4922	4454	4067	5073	4539	4108	3751	4462	3993	3613	3299	3973	3555	3217	2937
			36(s)	5014	4529	4129	3795	4624	4176	3808	3499	4067	3673	3349	3078	3621	3271	2982	2740

(t/hour)

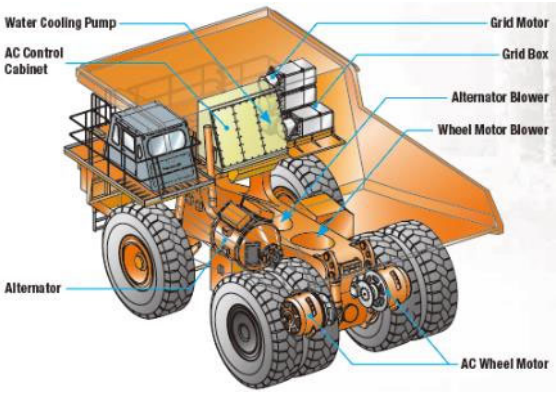
Rigid Dump Truck

Features

Refined engineering and advanced Hitachi AC Drive system technology have created hauling capability well recognized in the surface mining industry.
Our dump trucks continue to prove itself as an exceedingly capable and reliable solution to mine applications worldwide.

AC Drive Advantage

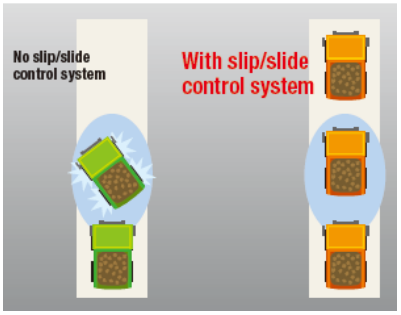
Hitachi AC drive technology provides superior truck performance with higher top speeds, better grade ability and stronger electric braking. Hitachi inverter modules provide high rigid truck controllability and efficiency. The Hitachi AC wheel motors do not have commutators and brushes, which improves truck performance by providing reduced maintenance costs, higher truck availability and higher travel speeds. These advantages result in more productivity and lower costs per tonne. Hitachi AC drive systems also power electric train locomotives world wide.



▪Hitachi Drive Control System

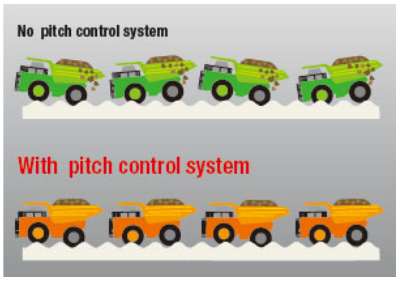
1. Slip / slide control system

If the system senses slipping or locking of rear wheels when traveling on slippery or frozen roads, it adjusts the torques of the wheel motors accordingly, bringing the truck more stable traveling.



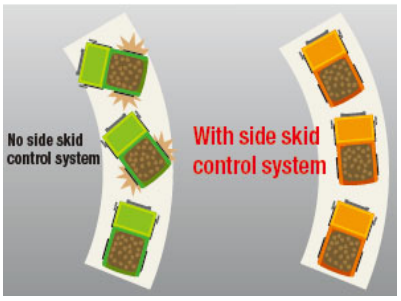
2. Pitch control system

If the system senses pitching when traveling on bumpy roads or stopping abruptly, it adjusts the torques of the wheel motors accordingly to reduce pitching of the truck, resulting in better operating comfort and fewer load spillage.



3. Side Skid control system

If the system senses oversteer or understeer from the newly equipped sensors, it adjusts the torques of the wheel motors accordingly to control the side skidding. This brings the truck smoother movements and more stable traveling and steering.



▪AC Drive Control

Superior Electric Braking enables the driver to stop the truck using the electric brake pedal only with the exception of emergencies, because the AC drive control system applies the service brakes automatically just before the stopping, resulting in easy machine operation and longer time between service brake maintenance intervals.
Auto Cruise Control keeps vehicle speed constant within the set range by limiting the minimum vehicle speed
Auto Retarding Control keeps vehicle downhill speed constant within the set range by limiting the maximum vehicle speed.

▪The AC Drive Wheel Motors

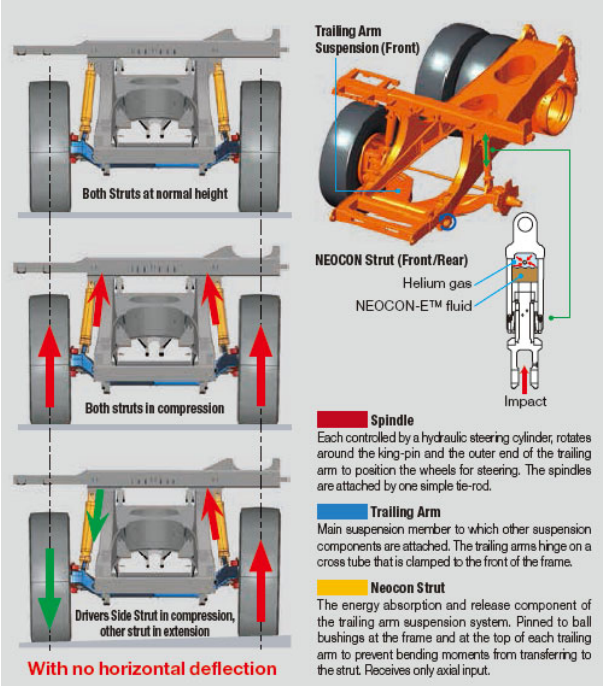
The Hitachi Double Path Tandem Planetary Design provides high efficiency. Better component and lubricant life is the result of holding the 1st carrier stationary and constantly cycling the lubricant through a cooler and filter.

Ease of Operation

・Superior Suspension

The Hitachi trailing arm suspension system delivers excellent maneuverability, even at higher speeds. The trailing arm layout offers greater ease of servicing while improving truck performance compared to suspended king-pin designs. The pivot mounting of the trailing arm design allows only axial input to the strut and allows wheel movement to the vertical plane only.

The trailing arm suspension design allows the front struts to be removed and installed without removing the front brakes or tires. This means fewer tools and less labor time are required, resulting in less downtime and higher productivity.



・THE FAST FILLING SYSTEM

The fast filling system, provided standard on the left side of the radiator, allows direct access at ground level for fast feeding of coolant, grease, hydraulic oil and engine oil. (Couplers are optional.)

1 Hydraulic oil
2 Coolant 1
3 Coolant 2
4 Grease
5 Engine oil

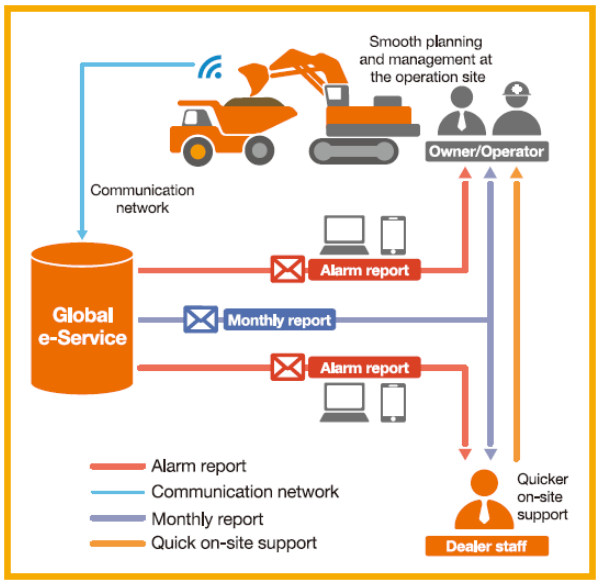
・HI-TECH ROPS/FOPS Cab

The HI-TECH ROPS/FOPS cab has been equipped with a Hitachi controller and a large centrally mounted, color Liquid Crystal Display (LCD) as used in Hitachi large sized excavators. Double wall construction of 11 gauge inner and outer steel panels produces a more structurally sound cab.

A three-point rubber isolation-mount arrangement minimizes vibration to the operator compartment.

ConSite

ConSite is a consolidated solution service that links you to your machine on the construction site.



▪Monthly Report

A detailed report of the operational status for each machine will be sent to the registered e-mail addresses every month.

Key items included in the report
- Truck payload summary
- Truck cycle summary
- AC drive components temperature
- Fuel consumption & operation efficiency
- Major components oil temperature
- Various advice & components

Benefits:
1. Monthly operational information helps you to analyze the operational efficiency of your machine and improve overall machine-operation status.

2. Each machine's operational information can be shared with Hitachi authorized dealers, enabling a stable operation for your machine.

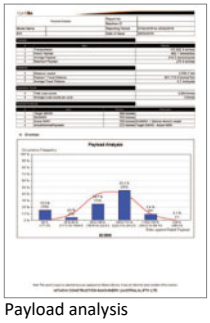
▪Alarm Report

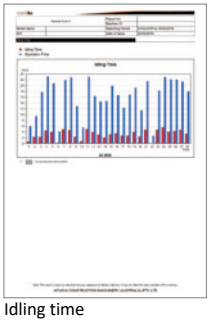
If the machine's alarm goes off and the problem requires urgent attention to prevent downtime, an emergency alarm report will be sent to the registered e-mail addresses.

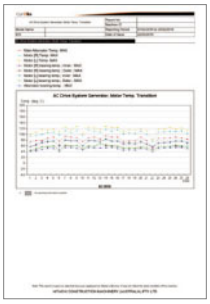
Key items included in the report
- Model name / S/N
- Hour meter
- Alarm code / name
- Recommended action
- Position

Benefits:
1. Information of an alarm requiring urgent attention can be shared by the operator and owner, so that the necessary measures can be taken.

2. Alarm information can be shared with your dealer as well, to enable smoother coordination and reduce your machine's downtime.


Payload analysis


Idling time


AC Drive components temperature

The report can be viewed on laptops, desktop computers, smartphones and tablets.

Warning:
· The data report service is available on machines equipped with the communication terminal.
· Contact Hitachi authorized dealers for the details of Data Report Service and machine models that are supported.
· The communication ability may depends on the situation of the worksite. Please confirm if your machine is currently communicating before having this service.
Under no circumstances shall Hitachi Construction Machinery Co., Ltd. and or Subsidiaries and its Dealers be held responsible or liable for any communication line failure, interruption, delay in operation or transmission or any other cause of action.

Simplified Maintenance

・Low Maintenance Air filters with evacuator valves

Four Air filters with evacuator valves bring easy maintenance.

・Ground Level Battery Box and Relay Box

The battery box door with gas cylinders allows the operator safe and easy maintenance.

・Collapsible Step for Maintenance inside Rear Axle

The collapsible step and flat service stage inside rear axle bring higher serviceability and safety

Long Frame Life

A fabricated box section and rectangular frame rail construction provides superior resistance to bending and torsional loads. The top and bottom flanges eliminate cross member tie-in joints and provide a larger exposed center area for access to major components.

Tough Body

The Hitachi horizontal stiffener design minimizes stress concentrations by dissipating load shocks over the entire body length. Efficiently spaced stiffeners provide additional protection by minimizing distances between unsupported areas.

Aerial Angle (option)

The dump truck Aerial Angle system is designed to assist in preventing collisions with obstacles. Aerial Angle has been newly implemented as an advancement and addition to the previous Peripheral Vision system. Obstacles within the front and surrounding areas of the machine are detected with warnings being activated by the system.

·Two Modes

The dump truck Aerial Angle has two modes. Stationary Mode detects any obstacles within the vicinity when the machine is stationary during dumping, loading, or when it is parked. Forward Mode warns the operator of the possibility of collisions during travel.

1. Stationary Mode (When Stationary)

Markers are placed on obstacles that appear on the screen. Red markers indicate any obstacles in the immediate vicinity of the machine, whereas yellow markers indicate obstacles further away. This system enables the operator to check for outside obstacles on-screen without having to leave machine.

Light vehicle is far away

Light vehicle is getting closer

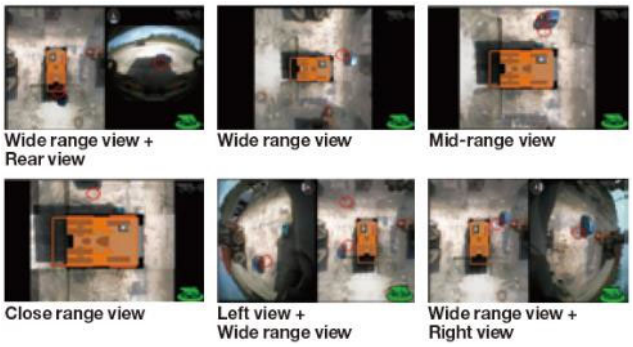
Shape of the light vehicle will be transformed in screen composition

Light vehicle is underneath the dump truck

Note: For obstacles underneath the machine, the camera is only able to detect obstacles within its range.

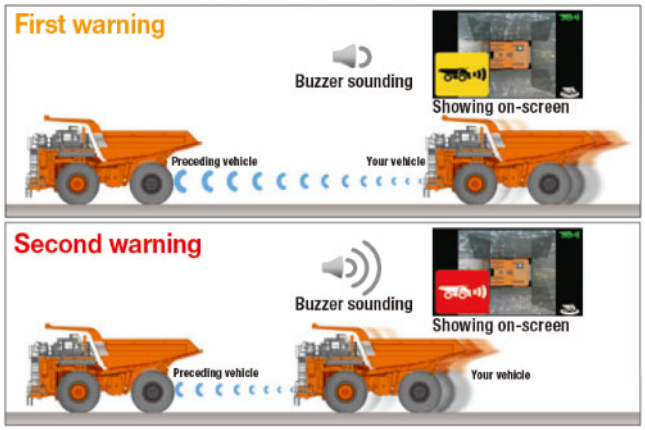
If Light vehicle is gone out of the right side range, Screen will be changed to Close Range Views. And then, the red-bar will be displayed.

Six different views including a bird-eye view of the machine are available to provide greater convenience.



2. Forward Mode (While Traveling)

Obstacles to the front and their distance from the machine are detected by a millimeter-wave radar. When another machine in front comes too close, the operator is notified by a buzzer sound as well as a warning sign that appears on the screen. There are two types of warnings that appear depending on the position of the machine in relation with the obstacle. The system adjusts the warning activation distance depending on the current gross laden weight of the vehicle.



Warning:
· When driving the vehicle, be sure to perform a direct visual check all around the vehicle with your eyes.
· This System is an auxiliary system to assist the operator in driving, and its use should never substitute the use of common sense safety measures, direct visual observation, and professional judgment. Never solely rely upon this System to operate the vehicle.
· Failure to understand or correctly interpret the images displayed and the alert features of this System may lead to accidents involving serious personal injury or property damage. Operate this System properly by thoroughly reading Aerial Angle Operator's Manual and getting a good understanding of this System before using it.
· The images projected by this System from above are processed, synthesized camera images; therefore, the surroundings may not continuously appear on the monitor, objects may appear upside down or may not appear, or otherwise appear differently from visual observation.
· Depending on the surrounding environment or the subject of detection, the detection function of this System may not work properly.
· The brightness of the surroundings, weather, road surface conditions, and shape and material of objects detected may cause the alarm of this System to become non-operational or malfunction.
· Do not operate the monitor when you are driving the vehicle.

Note: There are countries the system cannot be used in due to local laws and regulations etc.

Rigid Dump Truck Features

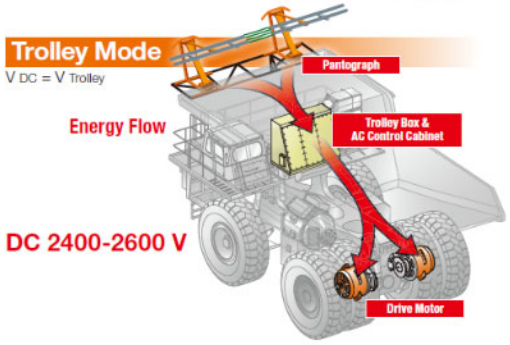
Trolley System (option)

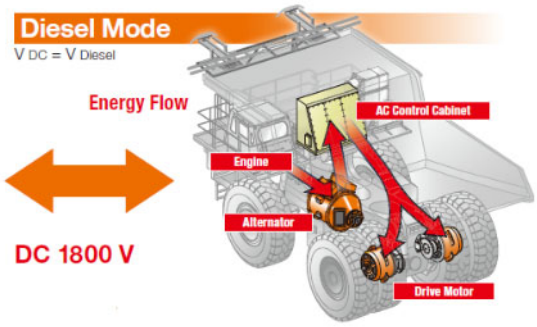
Power supply from an overhead line provides powerful and relentless travel on slopes. Switch between the on-board power source and an external power line smoothly and easily. Comfortable, stress-free operation.

▪Difference of Energy Flow between Trolley and Diesel Truck

Trolley Mode
While on electric power, the engine idles at 1200 rpm directing power only to the auxiliaries and the hydraulic pump – even when the machine is being driven uphill under load.

Diesel Mode
Engine runs at max power supplying drive to two-traction motors, all auxiliaries, and the hydraulic pump when being driven uphill under load.





▪Benefits of the Trolley System

Higher speeds during loaded hill climbing - faster than in Diesel mode (Travels at approx. twice the speed of a large-motor vehicle in Diesel mode)	→	**Shorter cycle times, higher productivity**
Lower diesel fuel consumption High-efficiency trolley travel thanks to the high-voltage DC (2400-2600 V) system	→	**Lower running costs, greater economy**
Less engine stress leads to longer engine life	→	**Lower running costs and greater economy and productivity due to less frequent engine overhauls**
Lower exhaust emissions and lower engine noise	→	**Environmental Friendliness**
Development of pantographs specifically for dump trucks	→	**Reduces risk of damage due to vibrations and uses carbon-metallic contact strips**
Body raising prohibited during trolley travel	→	**Safer operation (electric shock prevention)**
Low engine RPM during trolley travel (1200 rpm)	→	**Reduces noise inside cab**

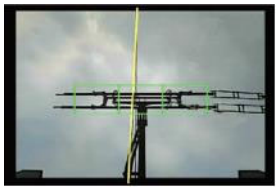
▪TLA (Trolley Line Assist : Optional)

Operators can check the overhead trolley wire and pantograph from the Aerial Angle monitor.

1. Positioning Assist

Before entering the trolley section, this function assists the operator in aligning the truck with the trolley line.

2. Trolley Line Assist



During trolley mode, this function assists the operator to drive within the contact range of the pantograph and trolley line.

These functions make driving the trolley trucks easier.

Rigid Dump Truck Specifications

Model	EH3500AC-3	EH4000AC-3	EH5000AC-3
Target GMOW※1	322000Kg	384000Kg	500000Kg
Nominal Payload※2	181tonnes(200tons)	221tonnes(243.6tons)	296tonnes(326tons)
Net Machine Weight※3	1410000kg	163000Kg	204000Kg
Chassis with Hoist &Body parts	118000Kg	137000Kg	174000Kg
Body excluding body parts	23000Kg	26000Kg	30000Kg
Body capacity(SAE 2:1)	117m^3	154m^3	202m^3
Weight distribution(Empty)			
Front	48%	48%	48%
Rear	52%	52%	52%
Weight distribution(Loaded)			
Front	33%	33%	33%
Rear	67%	67%	67%
Engine (standard)			
Engine	Cummins QSKTA50-CE	Cummins QSKTA60-CE	Cummins QSKTTA60-CE
Type	4 Cycle Diesel w/MCR fuel system	4 Cycle Diesel w/MCR fuel system	4 Cycle Diesel w/MCR fuel system
Emission Certification	U.S.EPA Tier 2	U.S.EPA Tier 2	U.S.EPA Tier 2
Number of Cylinders	16	16	16
Bore	159mm	159mm	159mm
Stroke	159mm	190mm	190mm
Displacement	50.3L	60L	60L
Rated power @ 1900min^{-1} (rpm) ISO 14396	1491kW(2000HP)	1864kW(2500HP)	2125kW(2850HP)
Maximum Torque @1500min^{-1} (rpm)	7871N.m (803kgf.m)	9839N.m (1004kgf.m)	11218 N.m (1144kgf.m)
Engine (optional)			
Engine	MTU 12V4000C21	MTU 16V4000C21	MTU 16V4000C31
Type	4 Cycle Diesel w/DDEC	4 Cycle Diesel w/DDEC	4 Cycle Diesel w/DDEC
Emission Certification	-	-	-
Number of Cylinders	12	16	16
Bore	165mm	165mm	165mm
Stroke	190mm	190mm	190mm
Displacement	48.8L	65L	65L
Rated power @ 1900min^{-1} (rpm) ISO 14396	1510kW(2025HP)	1864kW(2500HP)	2125kW(2850HP)
Maximum Torque @ 1500min^{-1} (rpm)	8199N.m (836kgf.m)	10148N.m (1035kgf.m)	11136N.m (1136kgf.m) ※4
Standard Tires	37.00R57	46/90R57	53/80R63
Turning Diameter ISO 7457	29.3m	30.2m	29.9m
Fuel tank (Standard)※5	2010L	2680L	2900L
Fuel tank (Option)※5	3640L	4570L	4950L
Maximum speed (Continuous)	56km/h	56km/h	56km/h
Sound Level in cab ISO 6396	LpA 75dB(A)	LpA 76dB(A)	LpA 73dB(A)
Auto air conditioner Refrigerant type	HFC-134a	HFC-134a	HFC-134a
GWP※6	1430	1430	1430
F gas Amount	1.0 kg	0.9 kg	1.0 kg
CO_2 equivalent	1.43 ton	1.29 ton	1.43 ton

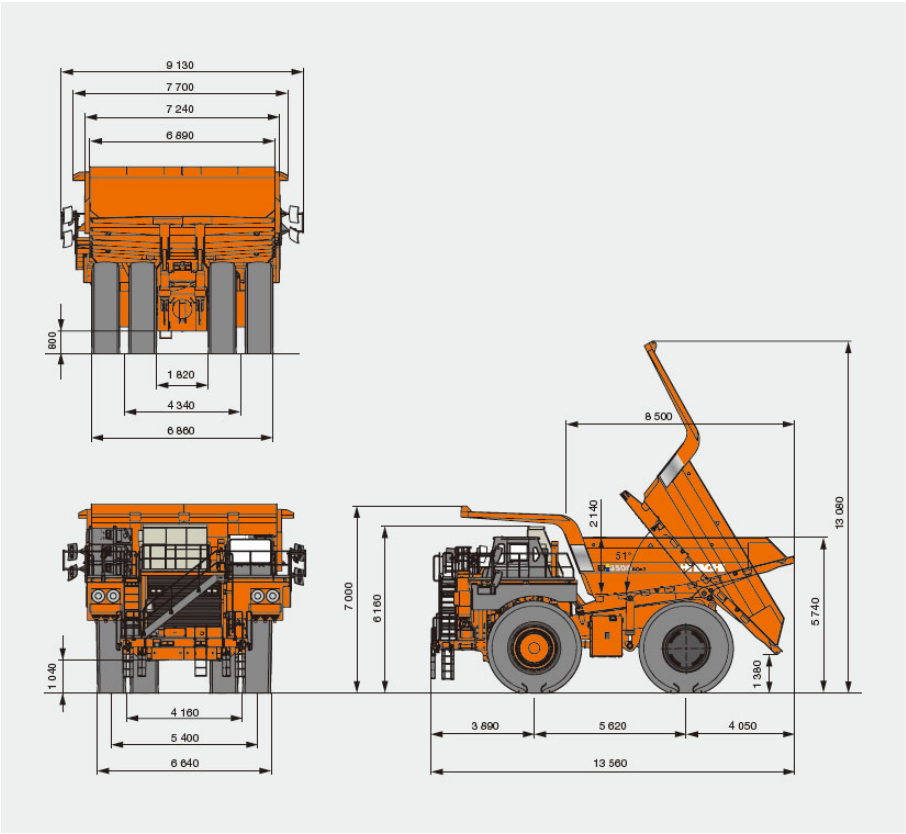
※1：GMOW means “Gross Machine Operating Weight” .GMOW=Net Machine Weight + Nominal payload.
※2：Nominal Payload: The Nominal Payload specification is calculated using the Hitachi Loading Policy. Specific job site requirements may result in an adjustment to the Nominal Payload weight. Consult your Hitachi dealer for a truck configuration which will match your haulage application.
※3：Net Machine Weight: The Net Machine Weight specification includes standard equipment, operator and 100 % fuel.
※4：This is Maximum Torque @ 1800min^{-1} (rpm).
※5：Standard fuel tank recommended for only day time operation. Optional fuel tank recommended for 24 hours operation. The option fuel tank is installed into the machines, the payload will be decreased by only the part.
※6：GWP means “Global Warming Potential”.

Overall Dimensions chart

Model	EH3500AC-3	EH4000AC-3	EH5000AC-3
Front canopy height	7000mm	7310mm	7520mm
Wheelbase	5620mm	6050mm	6470mm
Overall length	13560mm	14390mm	15490mm
Loading Height (Base Body)	5740mm	6130mm	6750mm
Height at Full Dump	13080mm	13870mm	14500mm
Body Length	8500mm	9160mm	9790mm
Overall Width	9130mm	9330mm	9600mm
Front Tire Tread	5400mm	6010mm	6370mm

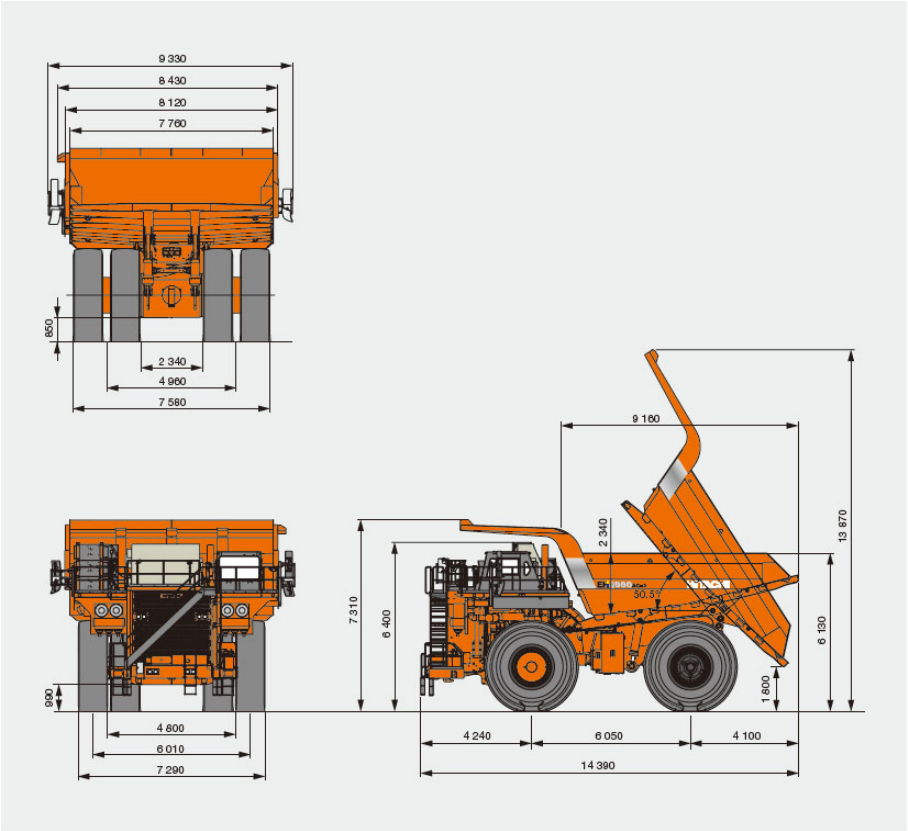
Dimensions

EH3500AC-3

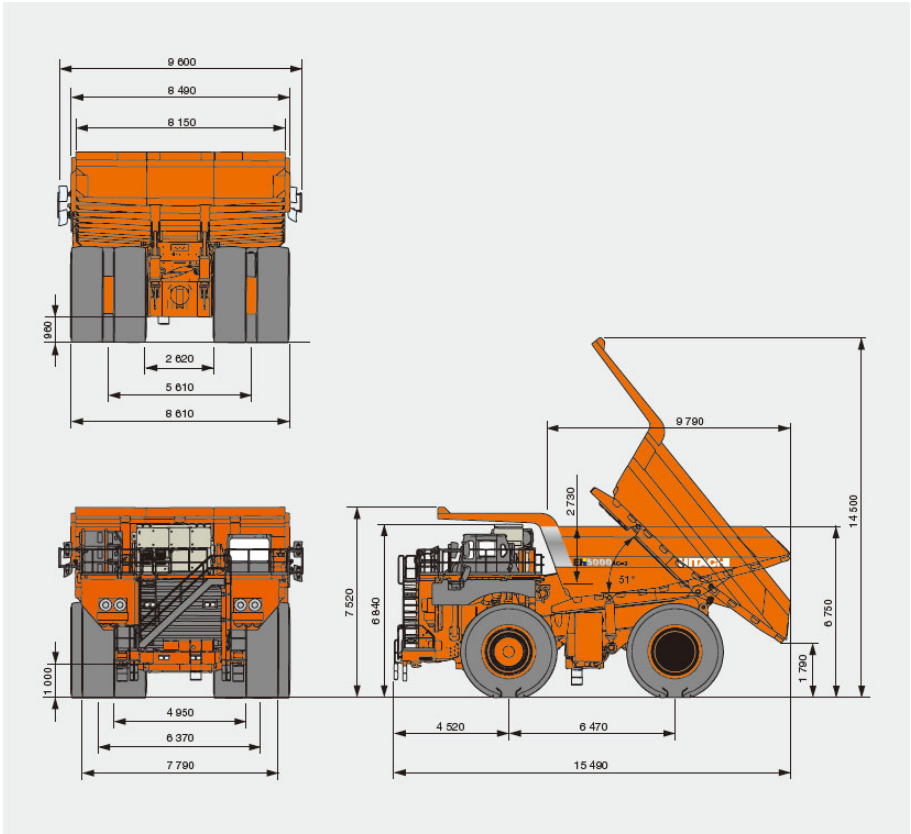


Rigid Dump Truck Dimensions

EH4000AC-3



EH5000AC-3



Tire Specifications

Tire manufacturers offer tires having a range of capabilities suitable for a variety of applications. For high performance hauling it is important to consult with the tire manufacturer to choose a tire that is best matched to truck TGMOW, travel speed and customer specific jobsite conditions. Jobsite condition severity, may result in a reduced truck payload and travel speed recommendation.

Model	Standard		Optional	
	Tire size	Rim width	Tire size	Rim width
EH3500AC-3	37.00R57	29inch	40.00R57	29inch
EH4000AC-3	46/90R57	29inch	40.00R57	29inch
EH5000AC-3	53/80R63	36inch	53/80R63	38inch

Body selection

An extended canopy protects service deck area. High tensile strength 400 BHN abrasion resistant alloy steel is used in thicknesses indicated below:

Model	EH3500AC-3	EH4000AC-3	EH5000AC-3
Plate Thickness(Standard Body):	**mm**	**mm**	**mm**
Floor	16	16	16
Front	9	9	9
Sides	9	9	9
Canopy	6	6	6
Corners	12	12	12
Optional Body Liners			
Floor	12	12	12
Front	6	6	6
Sides	6	6	6
Canopy drop edge	6	6	6
Corners	12	12	12

※Special plate thicknesses and partial plates are available.

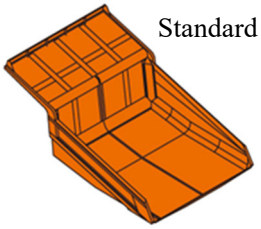
High strength 690 N/mm2 (100 000 psi) alloy steel is also used for the Canopy side members and floor stiffeners. The body is rubber cushioned on the frame.

Tough Body Structure

Designed by Hitachi for long lasting strength and productivity. Hitachi offers customized solutions to match specific load and haul applications.
Optional bodies and parts are engineered on request.

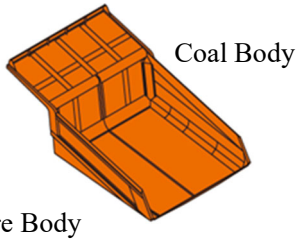
Standard Body

The Hitachi standard body is designed to accommodate the needs of popular mid-range material densities and the most popular loading machines. Various options, such as liners, spill guard, extended canopy are available.



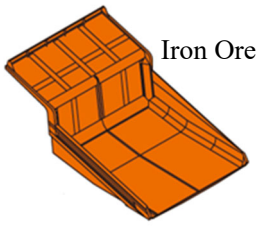
Coal Body (Optional)

The Hitachi coal body has been designed for low material density, small fragmented, low abrasive material. This coal body offers excellent material shedding, low empty weight and large capacity.



Iron Ore Body (Optional)

The Hitachi iron ore body has been designed for use in rugged iron ore mining applications. The body has been designed for high density material and optimized loading and dumping.

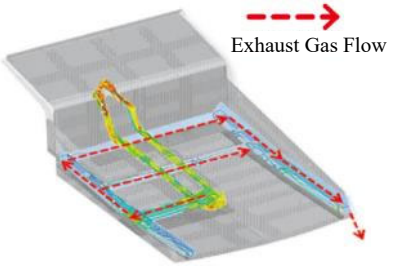


Customized Body (Optional)

Upon request and approval, Hitachi will design bodies to suit special mining applications.

Heated Body (Optional Feature)

Heated Body is an optionally available feature for the STD, Coal, Iron Ore and other customized Hitachi AC-3 Trucks Bodies. The heating system uses exhaust gas to warm the body as shown in the RH. Use of the heated body decreases the amount of carry backs that results in greater productivity.



Definition of performance curve

Performance curve is consisted by two curves. The explanation of each curve is following.

•Traction curve

The maximum-speed that the machine can climb a slope in certain vehicle gross weight and grade.

•Electric braking performance curve

The maximum-speed that the machine can be controlled only using electric brake in a certain vehicle gross weight and grade.

Performance curve described on these graphs are calculated based on theories. The Data may subject to change due to various factors such as haul road conditions, altitude, climate, etc. and there can be a difference between the actual data even if the Machine was operated under the same condition.

Use of performance curve

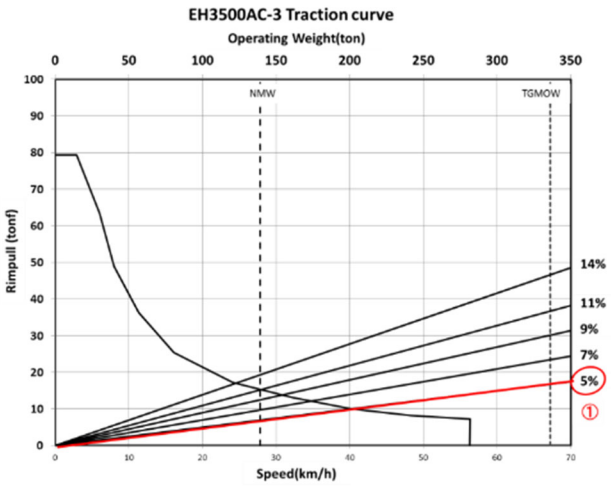
※Charts based on 0% rolling resistance.

①Find the effective grade on diagonal lines of Traction or Electric braking curve. (In this case, Effective grade=5%)

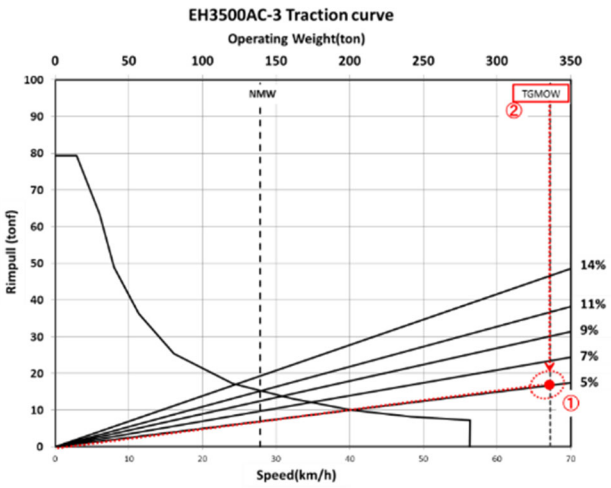
The definition of Effective grade

(Traction curve: Effective grade = Grade % + Rolling resistance %)

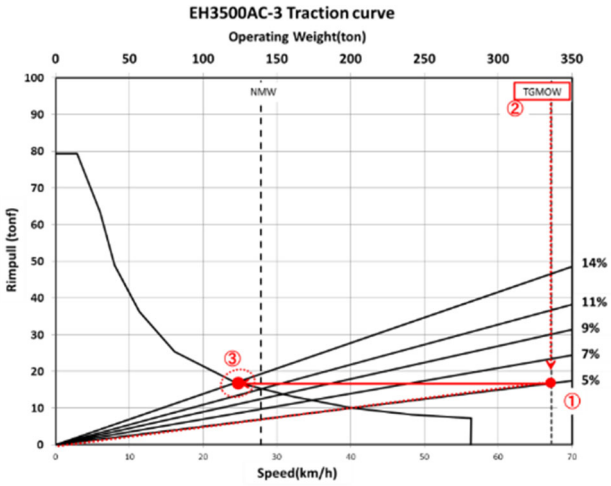
(Electric braking performance curve: Effective grade= Grade % - Rolling resistance %)



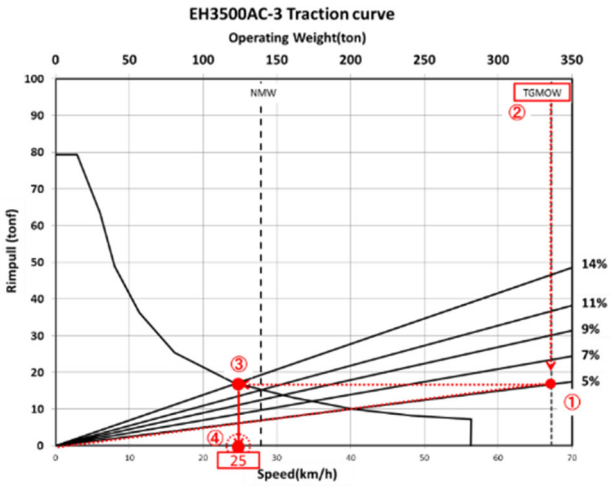
②Follow the diagonal line downward and intersect the NMW or GMOW weight line.（In this case, Operating weight =TGMOW)



③From intersection, read horizontally right or left to intersect the curve.



④Read down for machine speed.

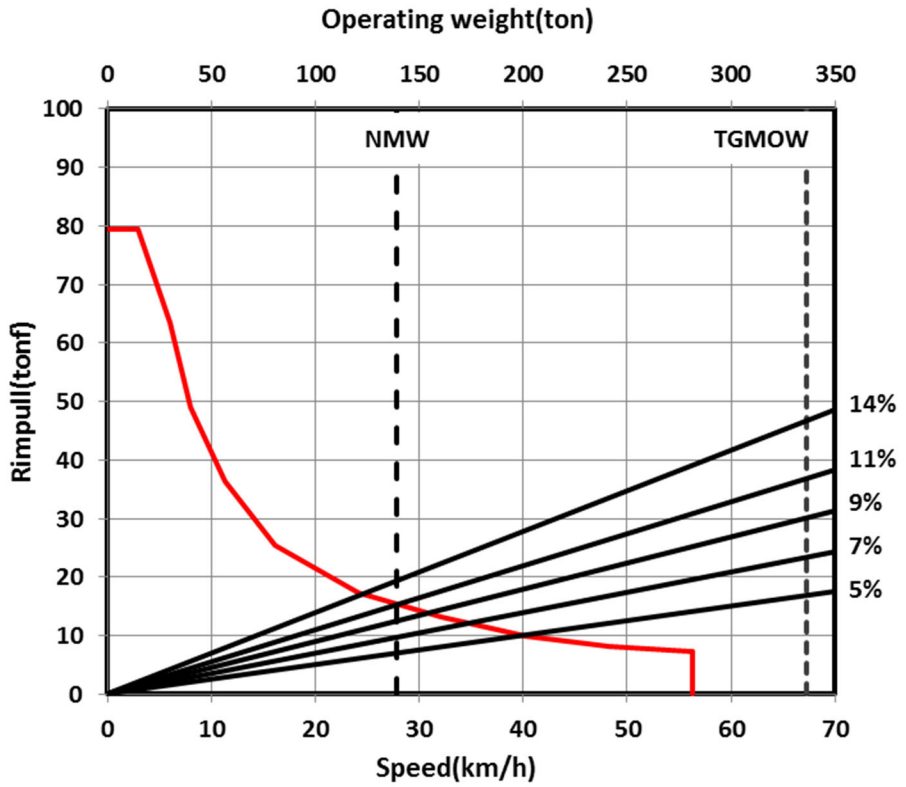


In this case, 25km/h is indicated as the truck travel speed.

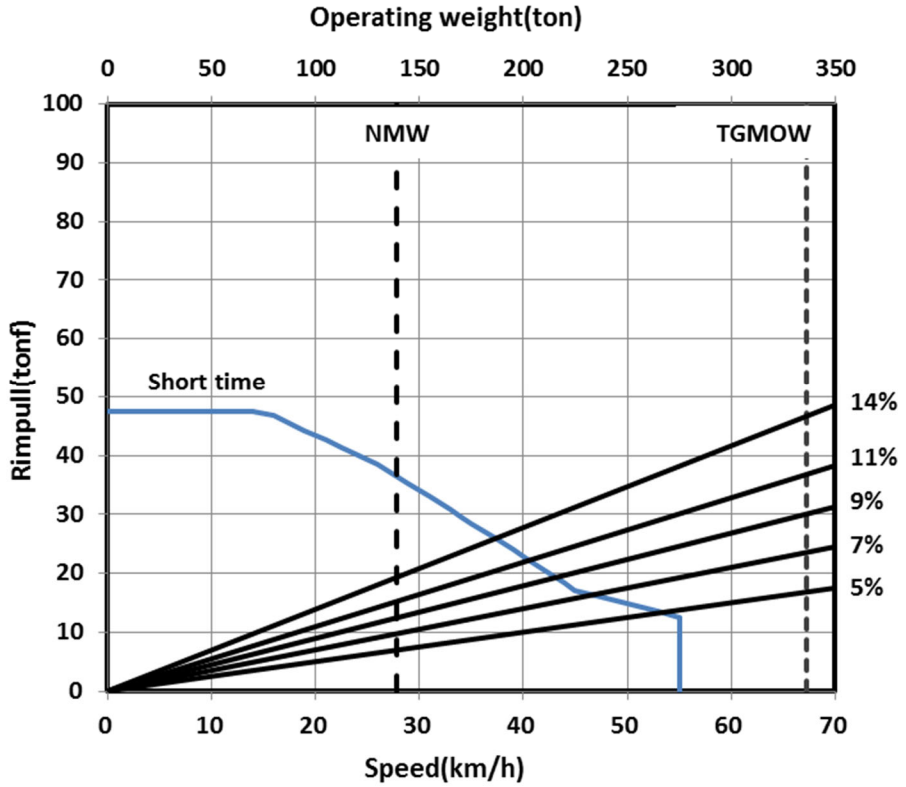
Rigid Dump Truck Performance Curve

・EH3500AC-3 with 37.00R57 tire

Traction curve



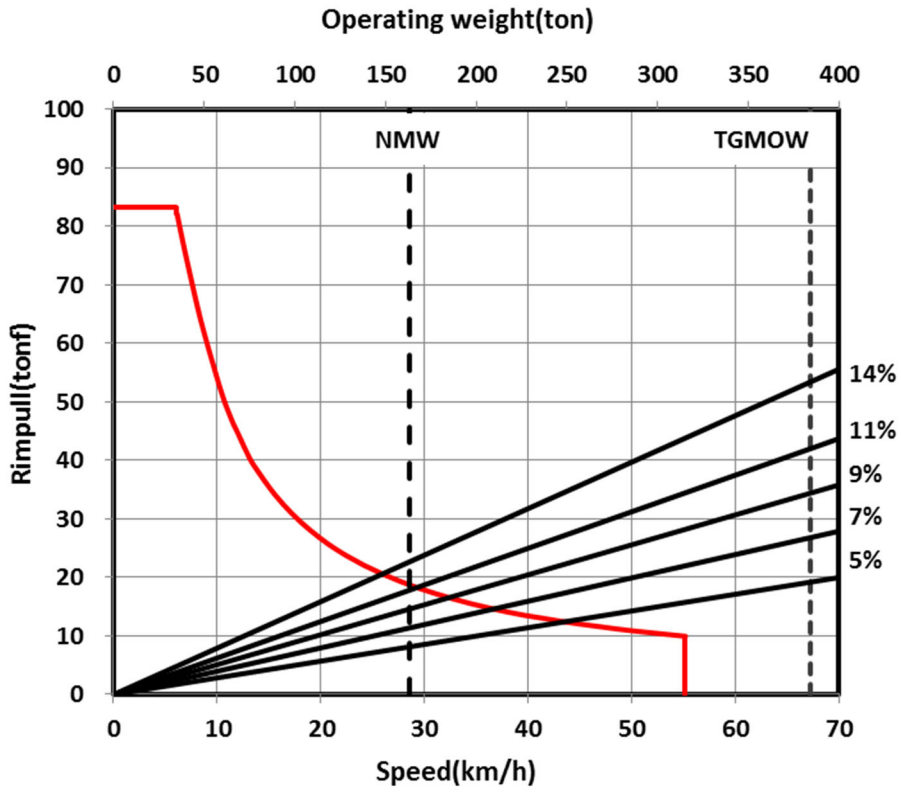
Electric braking performance curve



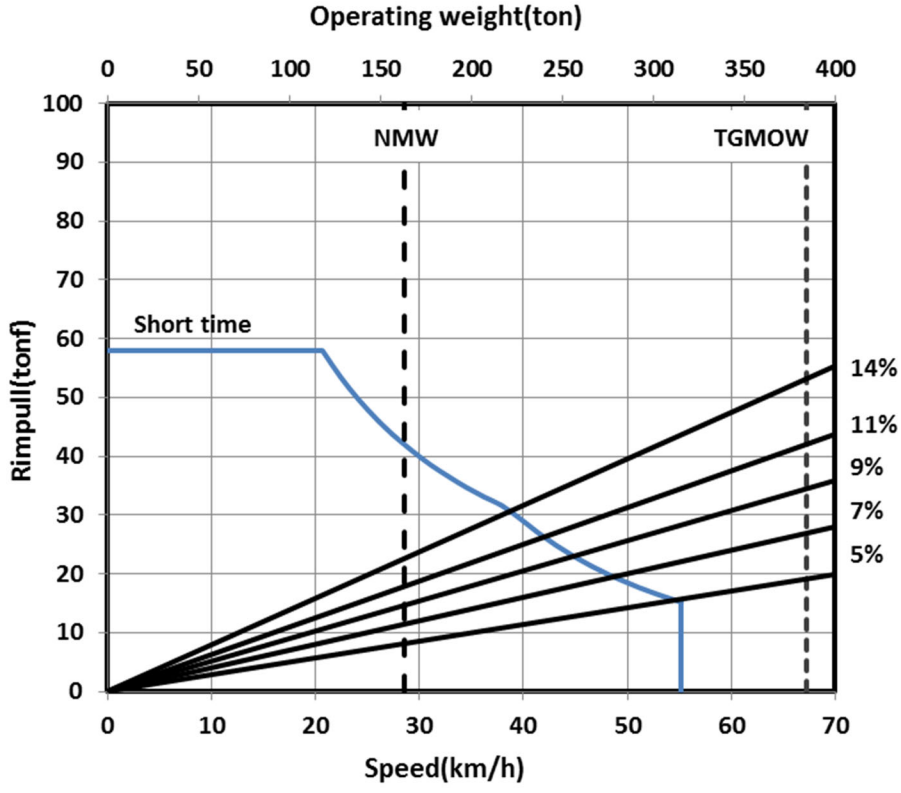
Rigid Dump Truck Performance Curve

・EH4000AC-3 with 46/90R57 tire

Traction curve



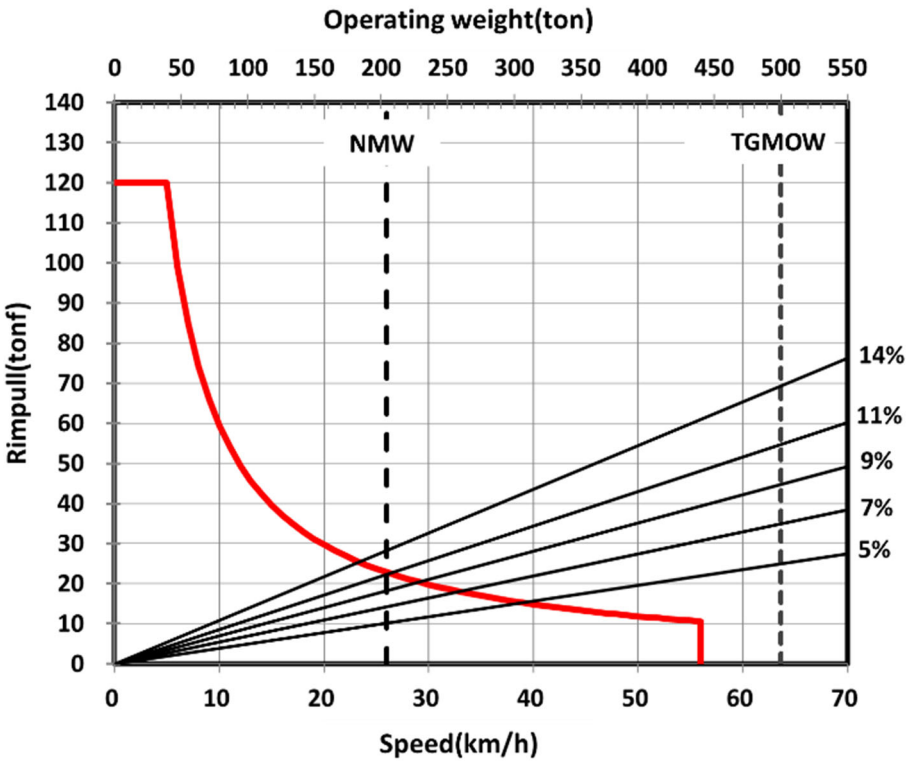
Electric braking performance curve



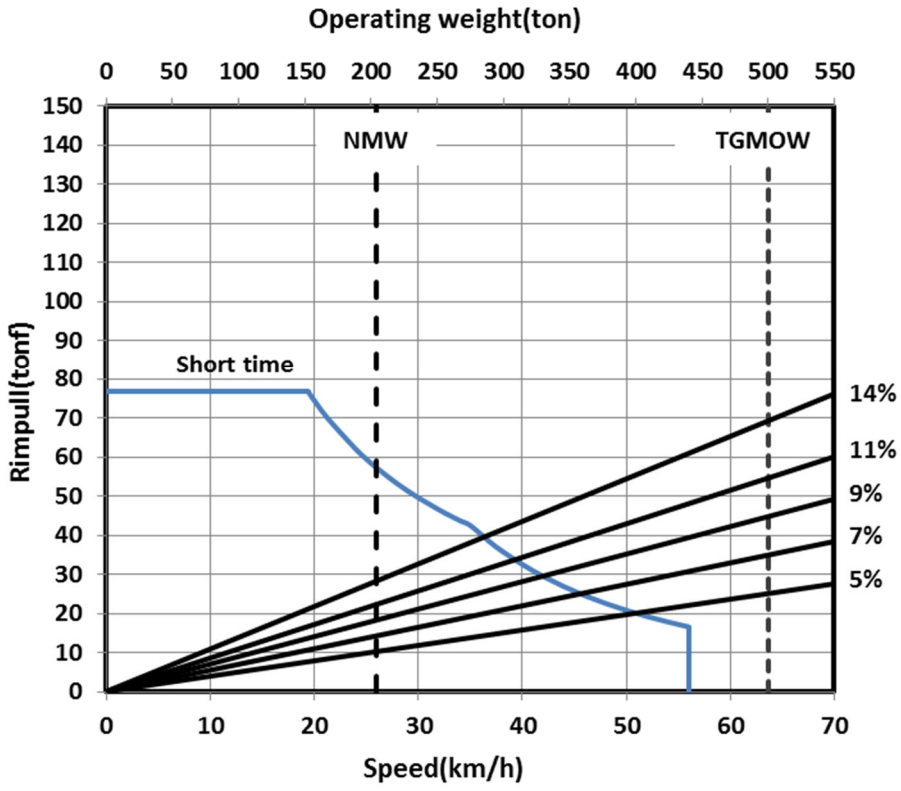
Rigid Dump Truck Performance Curve

▪EH5000AC-3 with 53/80R63 tire

Traction curve



Electric braking performance curve



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