HITACHI

■ **Rated Engine HP (gross)**
448 kW (600 HP)

■ **Operating Weight**
Loading Shovel: 105 000 kg (231 500 lb)
Backhoe: EX1100 103 000 kg (227 100 lb) [Standard]
EX1100 104 000 kg (229 300 lb) [BE-front]

■ **Loading Shovel Bucket Capacity**
PCSA Heaped: 5.7 — 6.3 $m^3$ (7.5 — 8.2 $yd^3$)

■ **Backhoe Bucket Capacity**
PCSA Heaped: 2.84 — 6.00 $m^3$ (3.71 — 7.84 $yd^3$)
CECE Heaped: 2.5 — 5.2 $m^3$

# Super EX
# EX1100

# Tackle the Big Project with the Big, Productive EX1100

**The EX1100. The giant hydraulic excavator that delivers the most demanded features for tough jobs.**
**Operator comfort, job efficiency, reliability, safety, and low running costs.**
**All come from the cutting edge in technology and a wealth of experience. The EX1100 can be counted on when the going is tough.**

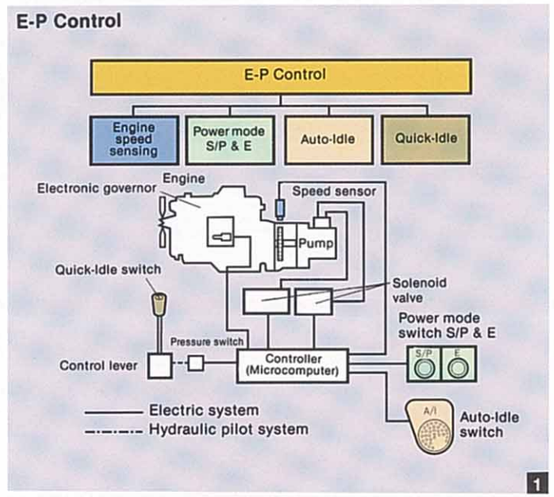
**Bucket Passes to Dump Trucks**

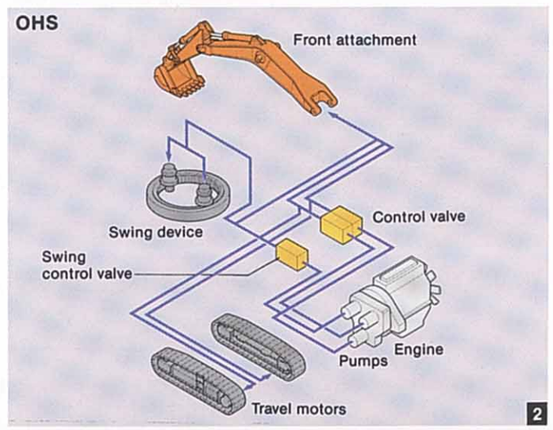
| | Dump Trucks | |
|---|---|---|
| **Bucket Capacity** | 32 US ton | 46 US ton |
| **Backhoe (standard)** | 5~6 | 8~9 |
| **Backhoe (BE-front)** | 4~5 | 7~8 |
| **Loading shovel** | 4 | 5~6 |

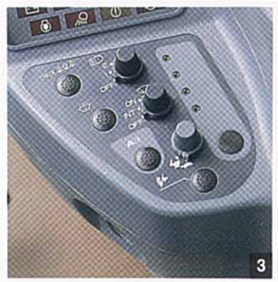
Pictured is the machine equipped with the BE front.

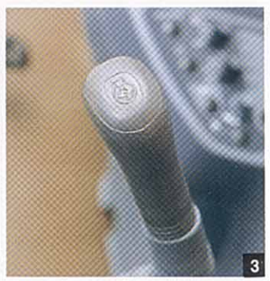
# Fight Tight Schedules with the Big, Dependable EX1100

**The EX1100. The feature-packed giant excavator for top production. Take a close look at technological breakthroughs. The advanced E-P (Engine-Pump) control. The S/P mode yields big production. The E mode enables fuel-saving, noise-reducing operation. The Auto-Idle is devised for fuel savings. The Quick-Idle instantly reduces engine speed as needed, reducing fuel consumption. All features at your hand to get the job done ahead of schedule.**




### 1 E-P Control for Big Production with Less Fuel Consumption

The computer-controlled E-P (Engine-Pump) Control delivers power and speed to suit job needs. The speed-sensing summation system makes efficient use of engine horsepower. The operator can choose from the three work modes: the S/P mode for big production, general mode for multi-purpose operation, and E mode for reducing fuel consumption and noise.

### 2 OHS (Optimum Hydraulic System) for Efficient Combined Operations

Use of three pumps enables smooth combined operations: swing/front, swing/travel, and travel/front. This helps the operator efficiently boost productivity.

### 3 Auto-Idle and Quick-Idle for Fuel Savings

With the control lever in neutral, Auto-Idle functions to reduce engine speed. Quick-Idle instantly further reduces engine speed by pressing the switch atop the right control lever. This helps the operator to reduce fuel consumption and noise when waiting for a dump truck, for example.

### ■ Superior Mobility

Two travel speeds can be selected according to job needs. Slow speed for powerful travel in confined job sites, and fast speed for quick travel to a distant site.

- Shockless valve absorbs shocks when the front stops
- Cushion mechanisms at cylinder stroke ends
- Quick warm-up circuit for quick starts in cold weather
- Control valve fitted with auto air vent
- Positive swing/parking brake



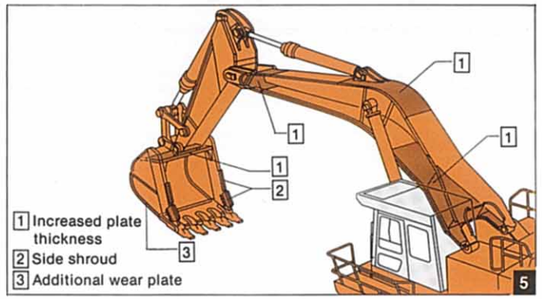


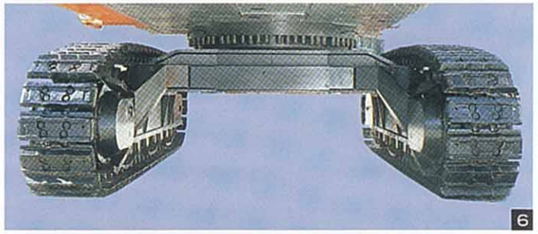
### 4 Rugged, Durable Front Attachment

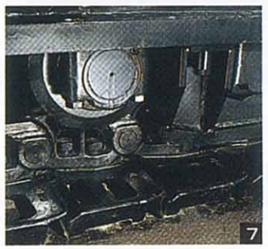
Lots of ideas are built into the boom and arm for ruggedness and durability. Reinforcement using bulkheads, steel cast bosses, double reverse lip seals at pins and bushings, and much more.

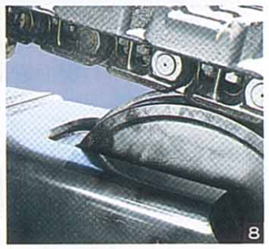
### 5 BE-front for Big Production

With the BE (Bulk Excavator) front — a combination of a short boom and arm, the EX1100BE-front brings big production with increased digging force and bucket capacity. Of course, the short boom and arm are strengthened thoroughly. Digging force is a big 497 kN (50.7 tons).




### 6 Large Crawlers with Compact Travel Devices

Large crawlers — 6 420 mm (21′0″) long and 4 610 mm (15′2″) wide — stabilize digging operation, and incorporate compact travel devices to allow functional design, enhancing smooth travel on rough terrain.

### 7 Durable Track Links

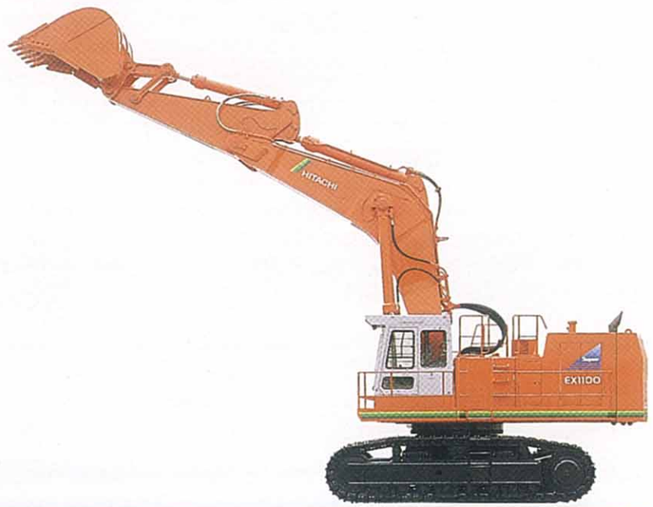
Strut-reinforced track links fitted with pin seals are durable and dependable. They allow the EX1100 to smoothly travel even on rough terrain.

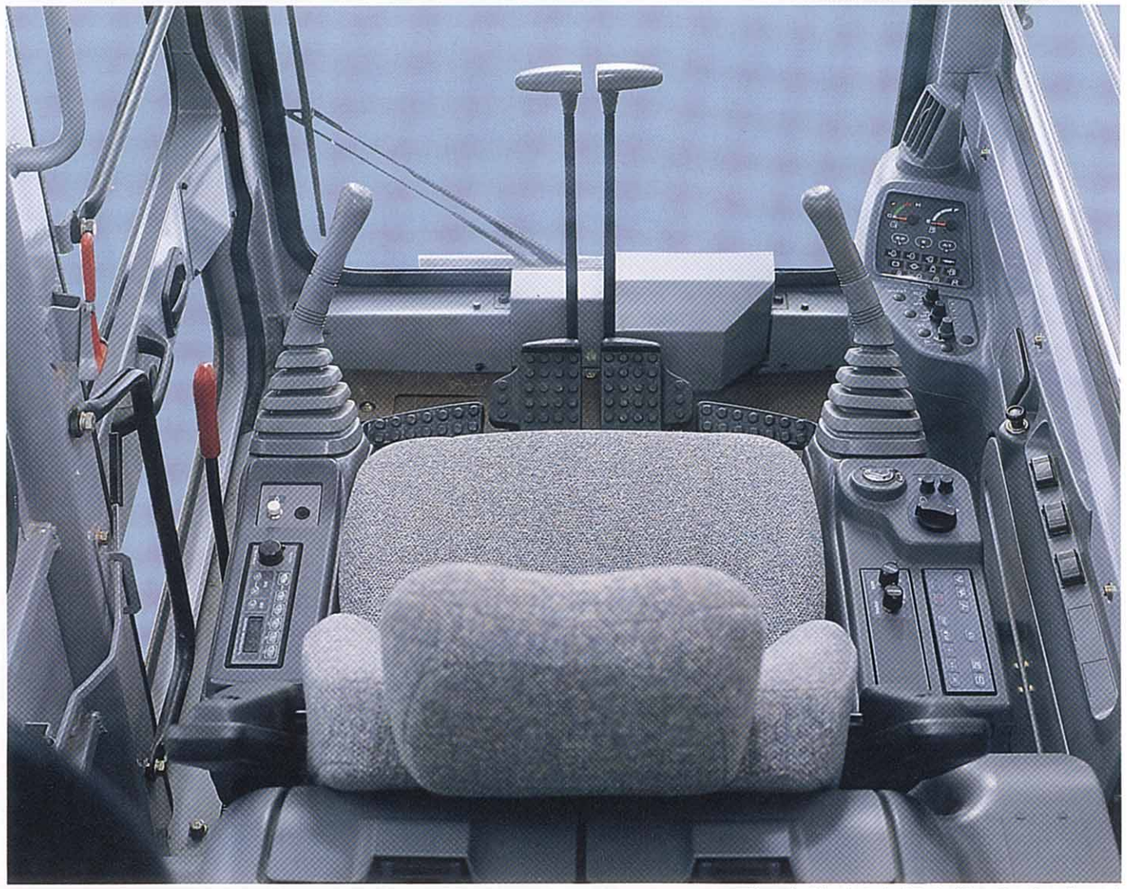
### 8 Spring-Load Track Adjuster

A simple spring-loaded track adjuster is employed. Provision is made to avoid entry of rocks between front idler and track frame.

# Hitachi Design Heritage: Operator-First Design with Ergonomics in Mind

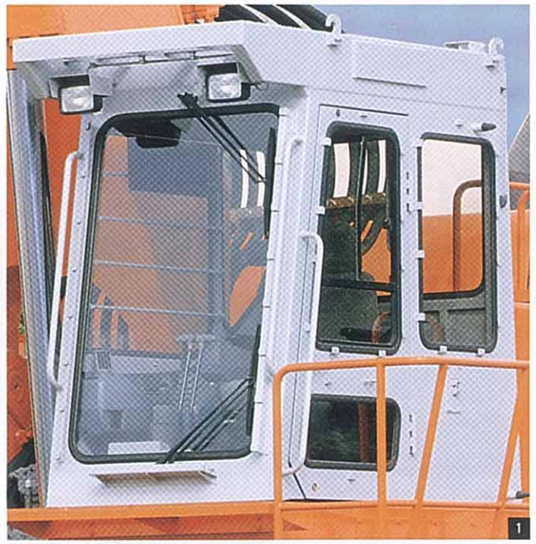
**Here are Hitachi's operator-first designs. Car-like deluxe cab, and advanced controls and instruments. All are designed with ergonomics in mind. Easy-to-read instruments and functional controls allow long, continuous pleasant operation with less fatigue. This brings high production.**



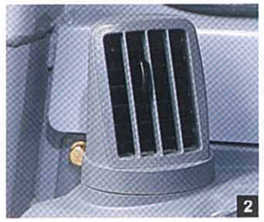



Show in this photo is fitted with optional equipment.

**1 Spacious Cab with Integrated Headguard**
The cab is integrated with headguard to increase ruggedness, durability and shock resistance, not expected from a column-support type. The car-like 1.1 m (3′7″) wide deluxe cab (pressurized cab) ensures operator comfort and good visibility.



**2 Ample-Capacity Fresh Air Introduction Type Air Conditioner (New Refrigerant)**
Large capacity air conditioner maintains the cab comfort all year round. Rotatory air louver serves as a defroster for rapid air cooling.



- Rotatory air louver

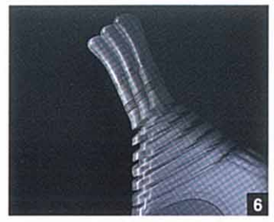
- Air conditioning control panel

**3 Hot-and-Cool Box and Storage Box**
Hot-and-Cool box with good heat insulation, and a storage box that can hold small items are located behind the seat for operator convenience.

**4 Functional Layout of Controls**
Controls and instruments are functionally laid out. Monitors and switches are located at front right, and engine controls are at the right next to the operator for operating ease.

**5 Dial Type Fuel Throttle**
Dial type fuel throttle is provided for easy control of engine speed according to job needs.

**6 Tilt-type Seat Cushion and Three-stage Adjustable Controls**
The front part and the rear part of the seat cushion can be adjusted up and down independantly to help the operator find the most comfortable operating position. Also, the controls can be adjusted in three stages to fit each operator.



- Travel lever with damper to absorb shocks
- Windshield washers and intermittent wipers
- Halogen headlight
- 12 V power terminal board

# Sophisticated Design for Safety and Maintainability

**Conforming to the world's most stringent safety standards, EN (European Norm), large handrails are provided at important locations to enhance safety. Also, conforming to the USA's Environmental Protection Agency (EPA), the emissions control engine is adopted to keep the atmosphere clean.**

### 1 Roomy Cab with Integrated Headguard

The roomy cab, conforming to the FOGS* Standards, gives higher shock resistance and ruggedness, not expected from a column-support type.

* FOGS includes the standards of ISO (International Organization for Standardization) and SAE (Society of Automotive Engineers, USA)

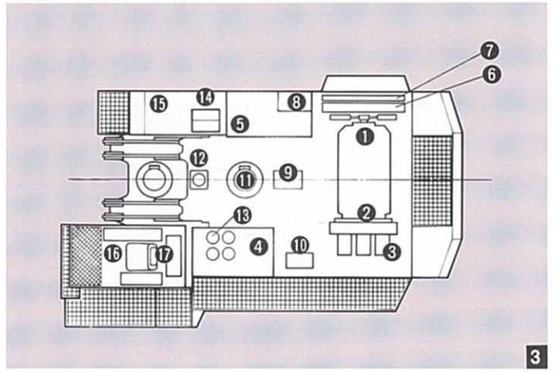

### 2 Left Sidewalk for Servicing Convenience

Left sidewalk and additional handrails are provided to facilitate daily maintenance.





### 3 Functional Layout for Servicing Convenience




❶ Diesel engine
❷ Pump drive unit
❸ Hydraulic pump × 3
❹ Hydraulic tank
❺ Fuel tank
❻ Radiator
❼ Hydraulic oil cooler
❽ Fuel cooler
❾ Control valves
❿ Swing control valves
⓫ Swing device × 2
⓬ Center joint
⓭ Hydraulic oil filter
⓮ Batteries
⓯ Tool box
⓰ Cab
⓱ Air conditioner



### 4 Emergency Evacuation Hammer

The hammer is provided in the cab for getting out of the cab in the case of an emergency.

### 5 Emergency Evacuation Rope

The emergency evacuation rope is provided on the elevated cab for getting off the cab.

### 6 Emissions Control Engine

The emissions control engine with an electronic governor, conforming to the USA's Emission Standards by the Environmental Protection Agency, is adopted to keep the environment clean.


### 7 Pump Bulkhead

A bulkhead is provided between engine and pump.


- Steps and slip resistance tapes
- Pilot-control shut-off lever
- Bucket clearance adjust mechanism
- Pneumatic lubricator with hose reel
- Large tool box that can hold a pail can
- Remote centralized lubrication system for front and swing circle
- Radiator with dust prevention net and overheat prevention level switch
- Fuel filter with fuel leak prevention stop valve

## ■SPECIFICATIONS

| Model | | EX1100-3 |
|---|---|---|
| ENGINE | Maker & Model | Cummins QSK19-C |
| | Type | Water-cooled, 4-cycle, 6-cylinders in line, turbo-charged, direct injection chamber-type diesel engine. |
| | Flywheel horsepower | |
| | DIN 6271 NET kW (PS) | 412 (560) |
| | SAE J1349 gross | 447 (600) |
| | Piston displacement L ($in^3$) | 18.9 (1 150) |
| | Fuel tank capacity L (US gal, Imp gal) | 1 200 (317.0, 264.0) |
| HYDRAULICS | Main pumps | 2 variable displacement axis piston |
| | Swing pumps | 1 variable displacement axis piston |
| | Max.oil pressure MPa ($kgf/cm^2$, psi) | 29.4 (300, 4 270) 31.4 (320, 4 550) Travel |
| | Max.oil flow L/min (USgpm,Imp gpm) | 3 × 490 (129.5, 107.8) |
| | Swing speed $min^{-1}$(rpm) | 5.8 (5.8) |
| UNDERCARRIAGE | Travel speed high/low km/h(mph) | 3.6/2.5 (2.2/1.6) |
| | Max.traction force kN (kgf, lbf) | 617.8 (63 000, 138 900) |
| | Gradeability deg (%) | 35 (70) |
| | Parking brake (swing/travel) | Hydraulic with disc |

## WEIGHTS AND GROUND PRESSURE

### Loading Shovel

Equipped with 6.30 $m^3$ (8.24 $yd^3$; PCSA heaped) bottom dump bucket

| Shoe type | Shoe width | Operating weight | Ground pressure |
|---|---|---|---|
| Double grousers | 710 mm (28″) | 105 000 kg (231 500 lb) | 132 kPa (1.35 $kgf/cm^2$, 19.2 psi) |

### Backhoe

EX1100-3: Equipped with 9.1 m (29′10″) boom, 3.4 m (11′2″) arm, and 4.60 $m^3$ (6.01 $yd^3$; PCSA heaped) bucket

| Shoe type | Shoe width | Operating weight | Ground pressure |
|---|---|---|---|
| Double grousers | 710 mm (28″) | 103 000 kg (227 100 lb) | 129 kPa (1.32 $kgf/cm^2$, 18.8 psi) |
| | 900 mm (35″) | 104 400 kg (230 200 lb) | 103 kPa (1.05 $kgf/cm^2$, 14.9 psi) |

EX1100-3BE-front: Equipped with 7.55 m (24′9″) BE-boom, 3.4 m (11′2″) BE-arm and 6.00 $m^3$ (7.84 $yd^3$; PCSA heaped) bucket

| Shoe type | Shoe width | Operating weight | Ground pressure |
|---|---|---|---|
| Double grousers | 710 mm (28″) | 104 000 kg (229 300 lb) | 130 kPa (1.33 $kgf/cm^2$, 18.9 psi) |
| | 900 mm (35″) | 105 400 kg (232 400 lb) | 104 kPa (1.06 $kgf/cm^2$, 15.1 psi) |

## LOADING SHOVEL ATTACHMENTS

### Buckets (PCSA heaped)

| Capacity | Width | Weight | No. of teeth | Type |
|---|---|---|---|---|
| 5.70 $m^3$ (7.46 $yd^3$) | 2 510 mm (8′3″) | 9 660 kg (21 300 lb) | 6 | Bottom dump type bucket |
| 6.30 $m^3$ (8.24 $yd^3$) | 2 700 mm (8′10″) | 9 080 kg (20 020 lb) | 6 | Bottom dump type general purpose bucket |

## BACKHOE ATTACHMENT

### Buckets

| Capacity | | Width | | No. of teeth | Weight | Recommendation | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | EX1100-3 | | | EX1100-3 BE-front |
| | | | | | | 9.1 m (29′10″) boom | | | 7.55 m (24′9″) BE-boom |
| PCSA heaped | CECE heaped | Without shroud | With shroud | | | 3.4 m (11′2″) arm | 4.5 m (14′9″) arm | 5.8 m (19′0″) arm | 3.4 m (11′9″) arm |
| **2.84 $m^3$ (3.71 $yd^3$) | 2.5 $m^3$ | 1 600 mm (5′3″) | 1 700 mm (5′7″) | 5 | 2 950 kg (6 500 lb) | | | ● | |
| 3.16 $m^3$ (4.13 $yd^3$) | 2.8 $m^3$ | 1 740 mm (5′9″) | 1 840 mm (6′0″) | 5 | 3 100 kg (6 840 lb) | | | ◎ | |
| **3.30 $m^3$ (4.31 $yd^3$) | 3.0 $m^3$ | 1 360 mm (4′6″) | 1 460 mm (4′9″) | 4 | 4 000 kg (8 820 lb) | | ● | | |
| 3.76 $m^3$ (4.92 $yd^3$) | 3.4 $m^3$ | 1 560 mm (5′1″) | 1 660 mm (5′5″) | 5 | 3 700 kg (8 160 lb) | | ◎ | | |
| **4.00 $m^3$ (5.23 $yd^3$) | 3.6 $m^3$ | 1 580 mm (5′2″) | 1 680 mm (5′6″) | 5 | 4 450 kg (9 810 lb) | ● | | | |
| **4.50 $m^3$ (5.88 $yd^3$) | 4.0 $m^3$ | 1 710 mm (5′7″) | 1 810 mm (5′11″) | 5 | 4 650 kg (10 250 lb) | ● | | | |
| ***4.60 $m^3$ (6.01 $yd^3$) | 4.0 $m^3$ | *1 810 mm (5′11″) | *1 990 mm (6′6″) | 5 | 4 140 kg (9 130 lb) | ◎ | | | |
| **5.10 $m^3$ (6.67 $yd^3$) | 4.6 $m^3$ | 1 960 mm (6′5″) | 2 060 mm (6′9″) | 5 | 5 700 kg (12 570 lb) | | | | ● |
| 6.00 $m^3$ (7.84 $yd^3$) | 5.2 $m^3$ | 2 180 mm (7′2″) | 2 280 mm (7′6″) | 6 | 5 470 kg (12 060 lb) | | | | ◎ |

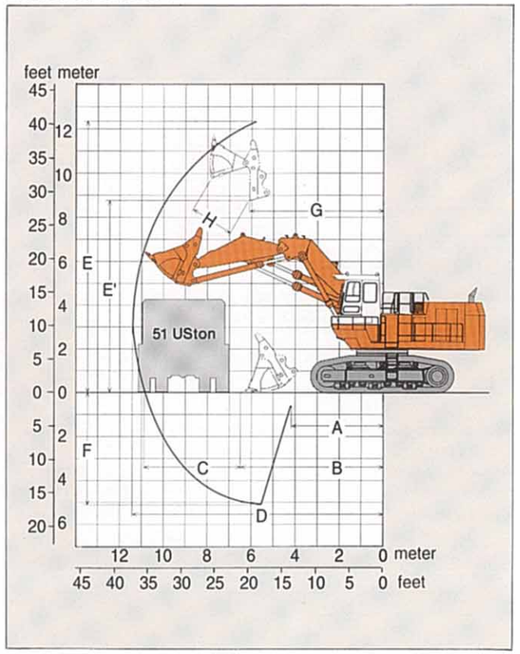
*Width of side cutters
**Rock bucket
***Standard hoe bucket is fitted with side cutters

◎Suitable for materials with density of 2 000 kg/$m^3$ (3 370 lb/$yd^3$) or less
●Heavy-duty service

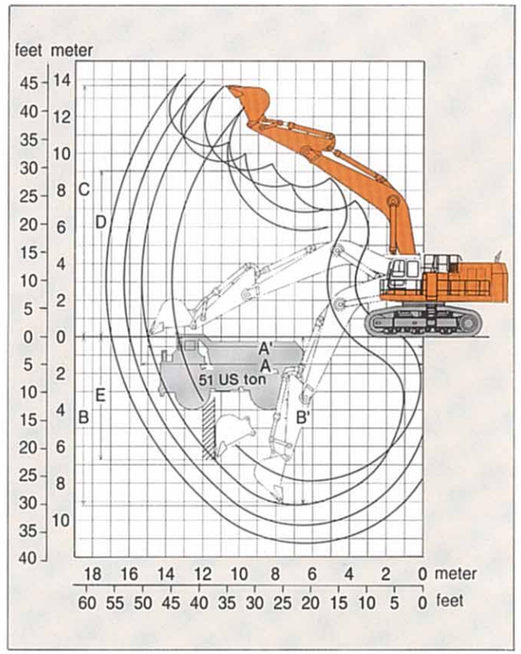


## WORKING RANGES

### LOADING SHOVEL




### BACKHOE




Unit: mm (ft in)

| Bottom dump type | EX1100-3 |
|---|---|
| A Min. digging distance | 4 240 mm (13′11″) |
| B Min. level crowding distance | 6 600 mm (21′8″) |
| C Level crowding distance | 4 210 mm (13′10″) |
| D Max. digging reach | 11 440 mm (37′6″) |
| E Max. cutting height | 12 350 mm (40′6″) |
| E' Max. dumping height | 8 740 mm (28′8″) |
| F Max. digging depth | 5 230 mm (17′2″) |
| G Working radius at max. dumping height | 6 090 mm (20′0″) |
| H Max. bucket opening width | 1 880 mm (6′2″) |
| Crowding force SAE | 555 kN (56 600 kgf, 124 800 lbf) |
| Breakout force SAE | 553 kN (56 400 kgf, 124 400 lbf) |

| | EX1100-3 | | | EX1100-3 BE-front |
|---|---|---|---|---|
| Boom length | 9.1 m (29′10″) | | | 7.55 m (24′9″) BE-boom |
| Arm length | 3.4 m (11′2″) | 4.5 m (14′9″) | 5.8 m (19′0″) | 3.4 m (11′2″) |
| A Max. digging reach | 15 350 (50′4″) | 16 380 (53′9″) | 17 360 (56′11″) | 13 780 (45′3″) |
| A' Max. digging reach (on ground) | 15 010 (49′3″) | 16 070 (52′9″) | 17 070 (56′0″) | 13 410 (44′0″) |
| B Max. digging depth | 9 320 (30′7″) | 10 420 (34′2″) | 11 420 (37′6″) | 7 930 (26′0″) |
| B' Max. digging depth (8′ level) | 9 190 (30′2″) | 10 310 (33′10″) | 11 330 (37′2″) | 7 800 (25′7″) |
| C Max. cutting height | 13 580 (44′7″) | 14 020 (46′0″) | 14 390 (47′3″) | 12 600 (41′4″) |
| D Max. dumping height | 9 010 (29′7″) | 9 430 (30′11″) | 10 360 (34′0″) | 8 150 (26′9″) |
| E Max. vertical wall depth | 7 670 (24′11″) | 8 880 (29′2″) | 10 360 (34′0″) | 6 270 (20′7″) |
| Bucket digging force kN (kgf, lbf) ISO | 429 (43 700, 96 400) | 429 (43 700, 96 400) | 308 (31 400, 69 200) | 492 (50 700, 111 800) |
| Bucket digging force kN (kgf, lbf) SAE: PCSA | 392 (40 000, 88 200) | 392 (40 000, 88 200) | 275 (28 000, 61 700) | 451 (46 000, 101 400) |
| Arm crowd force kN (kgf, lbf) ISO | 371 (37 800, 83 400) | 310 (31 600, 69 700) | 270 (27 500, 60 600) | 377 (38 000, 83 800) |
| Arm crowd force kN (kgf, lbf) SAE: PCSA | 363 (37 000, 81 600) | 304 (31 000, 68 400) | 265 (27 000, 59 500) | 363 (37 000, 81 600) |

## ■LOADING SHOVEL FEATURES

- Auto-leveling crowd mechanism by one-lever control
- Good visibility and 4.67 m (15′4″) high eye level (elevated cab)

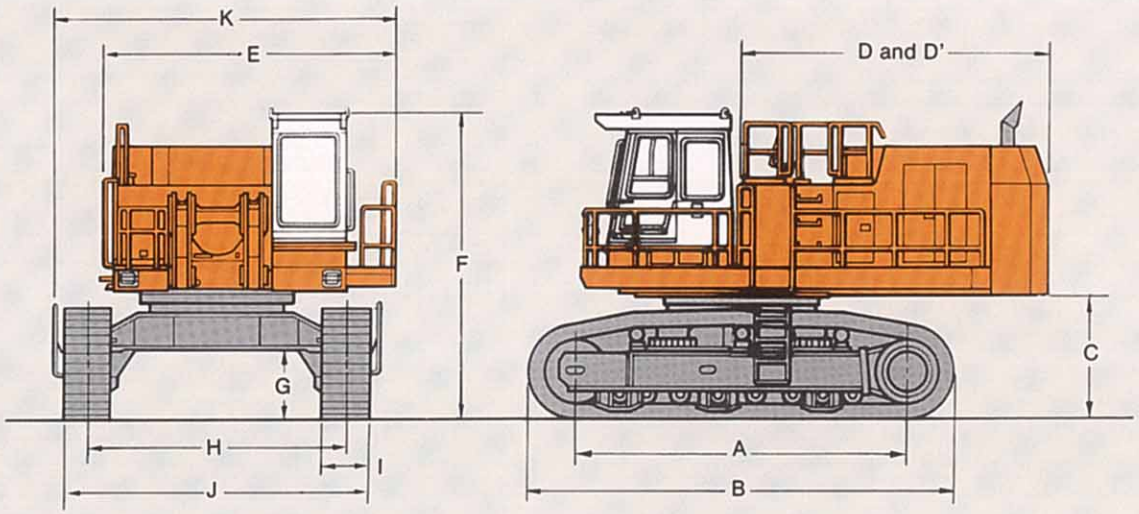
## STANDARD EQUIPMENT

● Tool kit ● Suspension seat ● Air conditioner (pressurized cab) ● Hot-and-cool box ● Radio ● Intermittent windshield wiper with washer ● Emergency evacuation hammer ● 12 V power terminal board ● Cigarette lighter ● Ashtray ● Front work lights (4) ● Room lights (2) ● Horn ● Rearview mirror ● Parcel tray ● Sunvisor ● Pneumatic lubricator with hose reel ● Sidewalk with handrails ● Elevated cab (loading shovel, 900 mm (2′11″) rise) ● Standard cab (backhoe) ● Hoe bucket ● Loader bucket ● 710 mm (28″) grouser shoes

## OPTIONAL EQUIPMENT

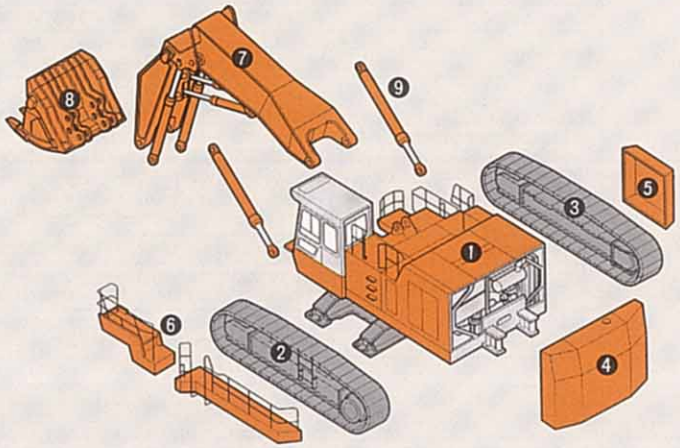
● Travel alarm ● Elevated cab (backhoe, 900 mm (2′11″) rise) ● Heavy lift mechanism (backhoe) ● Elevated cab (1 700 mm (5′7″) rise) ● Auto lubrication system ● Loader bucket (rock) 5.6 $m^3$ (7.32 $yd^3$) ● Refuel device ● 900 mm (35″) grouser shoes

## ■DIMENSIONS




| | | | | | |
|---|---|---|---|---|---|
| A | Distance between tumblers | 5 000 mm (16′5″) | G | Min. ground clearance | 990 mm (3′3″) |
| B | Undercarriage length | 6 410 mm (21′0″) | H | Track gauge | 3 900 mm (12′10″) |
| C | Counterweight clearance | 1 850 mm (6′1″) | I | Track shoe width | 710 mm (28″), 900 mm (35″) |
| D | Rear-end swing radius | 4 740 mm (15′7″) | J | Undercarriage width | 4 610 mm (15′1″), 4 800 mm (15′9″) |
| D′ | Rear-end length | 4 640 mm (15′3″) | K | Overall width | |
| E | Overall width of upperstructure | | | Loading shovel | 5 130 mm (16′10″) |
| | Loading shovel | 4 450 mm (14′7″) | | Buckhoe | 5 320 mm (17′5″) |
| | Buckhoe | 4 640 mm (15′3″) | L | Track height | 1 570 mm (5′2″) |
| F | Overall height of cab | | | | |
| | Loading shovel | 5 410 mm (17′9″) | | | |
| | Buckhoe | 4 510 mm (14′10″) | | | |

## ■WEIGHTS OF MAJOR COMPONENTS




| | |
|---|---|
| **Major components** | |
| ❶ Main frame assembly | 31 800 kg (70 120 lb) |
| ❷ Track side frame assembly (Left) | 14 700 kg (32 400 lb) |
| ❸ Track side frame assembly (Righ) | 14 700 kg (32 400 lb) |
| ❹ Counterweight | 16 500 kg (36 400 lb) |
| ❺ Radiator cover | 181 kg ( 400 lb) |
| **Loading shovel** | |
| ❻ Side walk assembly | 385 kg ( 850 lb) |
| ❼ Boom and Arm assembly | 15 200 kg (33 500 lb) |
| ❽ Bucket assembly | 9 080 kg (20 020 lb) |
| ❾ Boom cylinders | 1 170 kg ( 2 580 lb) |
| **Buckhoe** | |
| • Side walk assembly | 358 kg ( 790 lb) |
| • Boom assembly | 11 000 kg (24 300 lb) |
| • Arm assembly | 5 730 kg (12 600 lb) |
| • Bucket assembly | 4 140 kg ( 9 130 lb) |
| • Boom cylinders | 1 170 kg ( 2 580 lb) |

*These specifications are subject to change without notice.*
*Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, and all standard equipment.*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