

# PC8000 Super Shovel

## KOMATSU®



**Operating Weight**

720 t

1,600,000 lb

**Shovel Capacity**

38 m<sup>3</sup> 50yd<sup>3</sup>

SAE 2:1 heaped

**Main Drive**

Diesel

3000 kW 4,020HP

**Electric**

2900 kW



HYDRAULIC MINING SHOVEL

# PC8000 Super Shovel

SPECIFICATIONS

# PC8000 Super Shovel

## WALK-AROUND

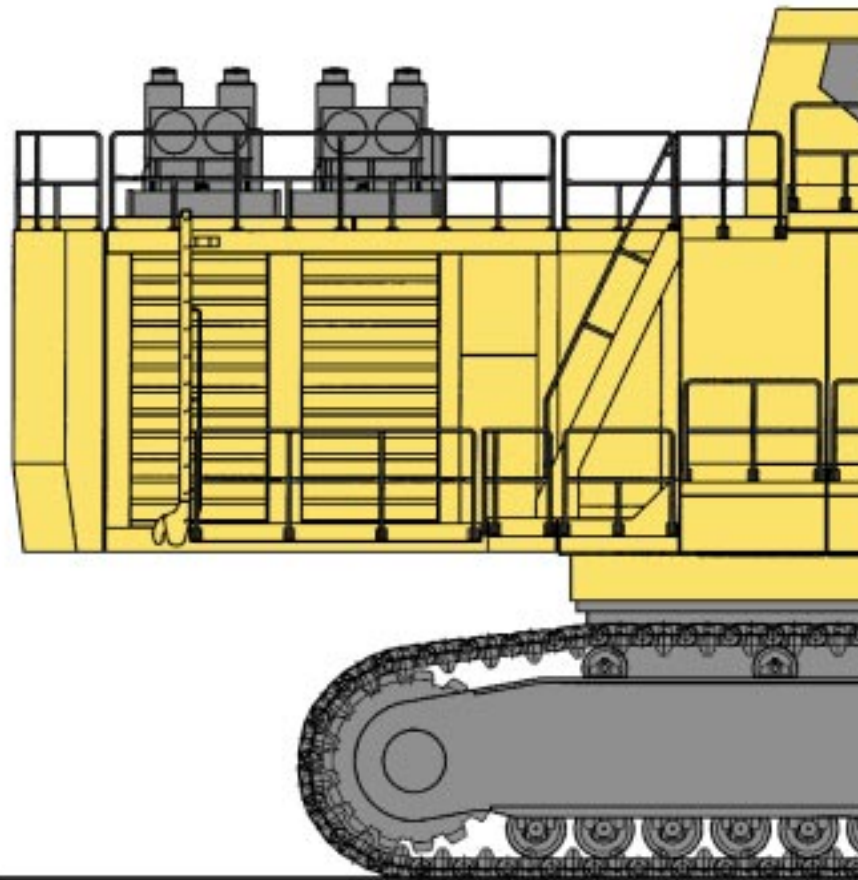
*The sheer size of this machine far exceeds all other series-built Hydraulic Shovels.*

*The existing world population testifies to the acceptability of this model.*

### ***In-house Design and Manufacture***

Components are designed to combine high production, easy maintenance, and extended reliability.

- Experience and quality control confirmed by ISO 9001 certification.
- Robust structural design developed from field experience and finite element analysis expertise.
- Produced by a company committed to continuous high investment in manufacturing and personnel skills.



### ***Undercarriage Built for Mining***

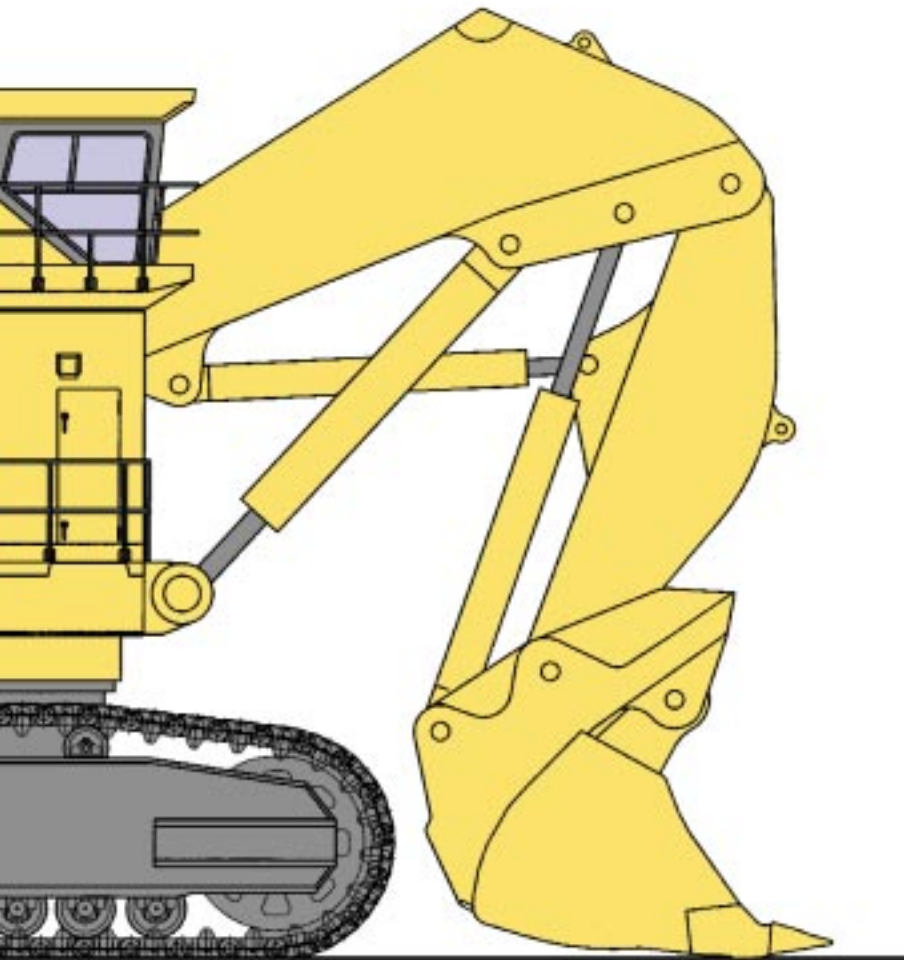
Lower operating costs.

- Big diameter rollers, idlers, and drive sprockets.
- Large contact areas and detailed hardening reduces wear.
- Hardened track link pin bores.

## Operator Comfort

New large operator's cab.

- Low internal noise level.
- New generation viscous cab mounts.
- Comprehensive climate control with pressurized filtered air ventilation and air conditioning.
- High specification multi-adjustable air suspension seat incorporates variable lumbar control.



Matched for  
trucks  
255 ton and larger

**SHOVEL BUCKET**  
38 m<sup>3</sup> 50 yd<sup>3</sup>

**CROWD/BREAKOUT FORCE**  
2320 kN 521,500 lb

**MAIN DRIVE**  
DIESEL:  
2 x 1500 kW 2 x 2,010 HP  
ELECTRIC:  
2 x 1450 kW

## ECS Electronic Control System

Provides real time and stored information about the running status of the machine.

- Continuous text display
- Service events precisely retained in digital form with battery back-up security.
- Automatic engine shut-down for critical malfunctions.
- Data download capability to a laptop computer.

## Sustained High Production

Designed for more tons per hour.

- Powerful digging forces.
- Ease of bucket filling.
- Proven attachment design.
- Buckets and Wear Packages to suit all densities and ground conditions.

## Worldwide Experience

PC8000 population is found in key mining areas throughout the world. Each shovel symbol represents one or several machines in operation.



# SPECIFICATIONS



## DIESEL DRIVE

Model	2 x Komatsu SDA16V160
Type	4-cycle, water-cooled, direct injection
Aspiration	Turbocharged and aftercooled
Number of cylinders	16
Rated power (SAE 1995/J1349)	2 x 1500 kW <b>2,010 HP</b> @ 1800 rpm
Governor	All-speed, electronic

The integrated engine oil and filter system extends service intervals. This combines the oil stabilizing systems, Reserve and Centinel, with the Eliminator self cleaning oil filter to extend, with oil analysis, the oil change interval to 4000 hours.

The high capacity engine radiators are each cooled by a hydraulically driven fan for superior cooling efficiency and requiring little maintenance.



## ELECTRIC SYSTEM (Diesel Version)

System	24 V
Batteries (series/parallel)	8 x 12 V
Alternator (each engine)	100 A
Standard working lights	8 Xenon lights
Standard service lights	15 lights

Optional lighting upon request



## UNDERCARRIAGE

Undercarriage consists of one center carbody and two track frames, each attached by four large diameter hardened pins.

Center frame	H-type
Track frames	Steel box-section



## CRAWLER ASSEMBLY

Track adjustment	Automatic hydraulic type
Number of track shoes	48 each side
Number of top rollers	3 each side
Number of bottom rollers	8 each side



## TRAVEL AND BRAKE SYSTEMS

Travel control	2 foot pedals
Gradeability	Up to 55%
Travel speed (maximum)	2.2 km/h <b>1.4 mph</b>
Service brake	Hydraulic brake
Parking brake	Wet, multiple-disc



## SERVICE CAPACITIES

Hydraulic oil tank	8350 ltr <b>2,205 U.S. gal</b>
Hydraulic system	11500 ltr <b>3,040 U.S. gal</b>
Fuel	14000 ltr <b>3,700 U.S. gal</b>
Engine coolant	2 x 475 ltr <b>2 x 125 U.S. gal</b>
Engine oil (sump)	2 x 290 ltr <b>2 x 75 U.S. gal</b>
Centinel engine oil make up tank	2 x 800 ltr <b>2 x 210 U.S. gal</b>



## ELECTRIC DRIVE

Type	Squirrel-cage induction motor
Power output	2 x 1450 kW
Voltage	6600 V*
Amperage (approximate)	2 x 155 A
Frequency (standard)	50 Hz @ 1500 rpm
Optional frequency	60 Hz @ 1800 rpm

\*Other voltages available on request



## ELECTRIC SYSTEM (Electric Version)

System	24 V
Batteries (series/parallel)	4 x 12 V
Standard working lights	8 Xenon lights
Standard service lights	15 lights

Optional lighting upon request



## HYDRAULIC SYSTEM

The power train consists of two main drives. Diesel engines or electric motors can be supplied. Each of the two gearboxes drives four identical pumps which draw hydraulic oil from an unpressurized hydraulic tank. Open circuit hydraulics provide maximum cooling and filtering efficiency.

Rated flow (total output)	8280 ltr/min <b>2,190 gpm</b>
Relief valve setting	310 bar <b>4,495 psi</b>
Swing flow rate	2385 ltr/min <b>630 gpm</b>

High pressure in line filters . . . . . 200 µm  
one per pump located at the valve blocks

Full flow return line filters (8 double elements) . . . . . 10 µm  
at head of hydraulic tank.

The four-circuit system features a load-limiting governor with oil delivery summation to the working circuits and incorporates pressure cut-off control. Hydropilot prioritizes hydraulic flow giving smooth hydraulic response, simple hydraulic system layout, and a reduced number of components.

The hydraulic system includes four large swing-out vertical air-to-oil hydraulic coolers with temperature-regulated hydraulically driven fans.



## SWING SYSTEM

Hydraulic motors and drives	3
Swing brake, service	Hydraulic brake
Swing brake, parking	Wet, multiple-disc
Swing ring teeth	External
Swing speed (maximum)	3.5 rpm



## AUTOMATIC CENTRALIZED LUBRICATION

Two hydraulically powered Lincoln Single Line automatic lubrication systems are provided as standard, complete with time and volume variable controls. Activity and malfunction events are linked to the ECS. The central lubrication and open gear lubricant are supplied by identical pump assemblies from a refillable twin container which has a capacity of 2 x 300 litres (**2 x 80 gal.**).



## CAB

The large operator's cab is constructed in steel and conforms to ISO 3449 as a FOPS structure. It is mounted on 18 viscous pads to reduce vibration and noise. The operator's eye is at 8.86 m **29'1"**. The cab is pressurized with filtered air, fitted with an air conditioner and a window de-mister. A deluxe weight compensating, adjustable air suspension operator's seat with unique variable lumbar support is fitted as well as a fold-away auxiliary seat.

Low effort joy stick controls are electric over hydraulic and foot controls are for front shovel clam, crawler and swing brake.

Full instrumentation and ECS are provided. Space in the console is provided for an additional monitor. AM/FM radio is fitted. The windshield wash wiper has two speeds with intermittent operation. (Water reservoir 7 litres **1.8 gal.**) Amenities include a wash basin with running water, water reservoir, (50 litres **13 gal.**), refrigerator and storage cabinets.

Working lights and powered mirrors are adjusted from inside the cab. There are left and right hand sliding windows. All windows are tinted parsol green. External metal louvres are provided on each cab side windows.



## ELECTRONIC CONTROL SYSTEM

The ECS digital diagnostic system, mounted in the operator's console, provides a text display of real time and stored information about the status of the operating machine. Non serious and critical faults are immediately announced and engines are shut down when major malfunctions occur. The integrated digital storage provides full event history, which can be down loaded with a laptop computer. The ability to electronically record service events provides precise service information to assist in reducing downtime.



## OPERATING WEIGHTS

### PC 8000 Backhoe:

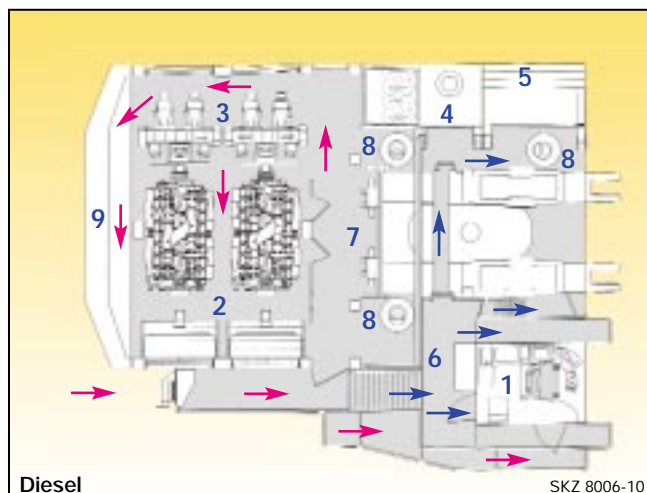
Operating weight including 11500 mm **37'9"** boom, 5500 mm **18'0"** stick, 38 m<sup>3</sup> **50.0 yd<sup>3</sup>** backhoe bucket, operator, lubricant, coolant, full fuel tank, and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1500 mm <b>59"</b>	710 t <b>1,565,000 lb</b>	26.7 N/cm <sup>2</sup> <b>38.7 psi</b>
1900 mm <b>75"</b>	724 t <b>1,600,000 lb</b>	21.5 N/cm <sup>2</sup> <b>31.2 psi</b>

### PC 8000 Front Shovel:

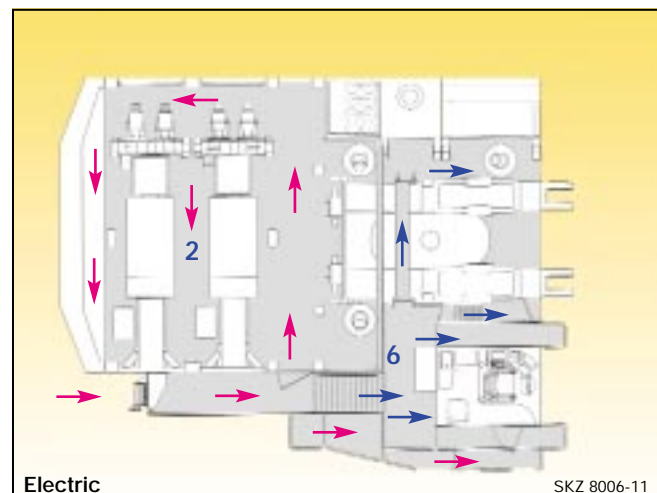
Operating weight including 8150 mm **26'9"** boom, 5750 mm **18'10"** stick, 38 m<sup>3</sup> **50.0 yd<sup>3</sup>** shovel bucket, operator, lubricant, coolant, full fuel tank, and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1500 mm <b>59"</b>	700 t <b>1,540,000 lb</b>	26.3 N/cm <sup>2</sup> <b>38.1 psi</b>
1900 mm <b>75"</b>	714 t <b>1,575,000 lb</b>	21.2 N/cm <sup>2</sup> <b>30.7 psi</b>



Diesel

SKZ 8006-10



Electric

SKZ 8006-11

### Explanation

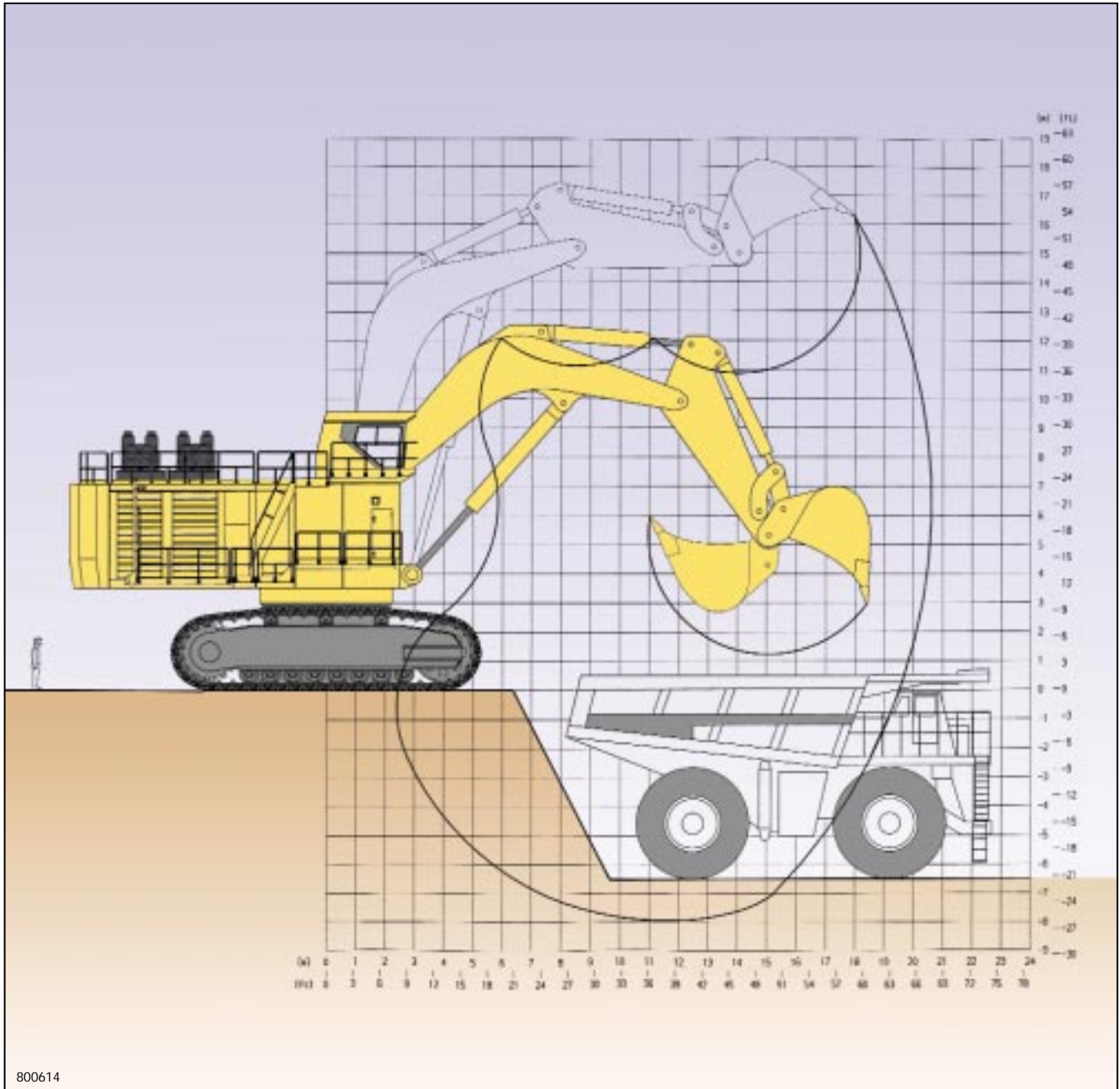
- |                     |                 |
|---------------------|-----------------|
| 1 Cab               | 6 Fuel Tank     |
| 2 Diesel Engines    | 7 Valve Blocks  |
| 3 Hydraulic Pumps   | 8 Swing Motors  |
| 4 Hydraulic Tank    | 9 Counterweight |
| 5 Hydraulic Coolers |                 |

### Variation for Electric

- |                                 |
|---------------------------------|
| Drive Version                   |
| 2 Electric Motors               |
| 6 High Voltage Electric Cabinet |

- Walkways
- ← Lower-Level
  - ← Upper-Level

# PC8000 Backhoe



800614



## DIGGING FORCES

Break-out force	2000 kN	<b>449,500 lb</b>
Tear-out force	1800 kN	<b>404,600 lb</b>

Maximum reach at ground level . . . . .	19730 mm	<b>64'9"</b>
Maximum digging depth . . . . .	8090 mm	<b>26'6"</b>

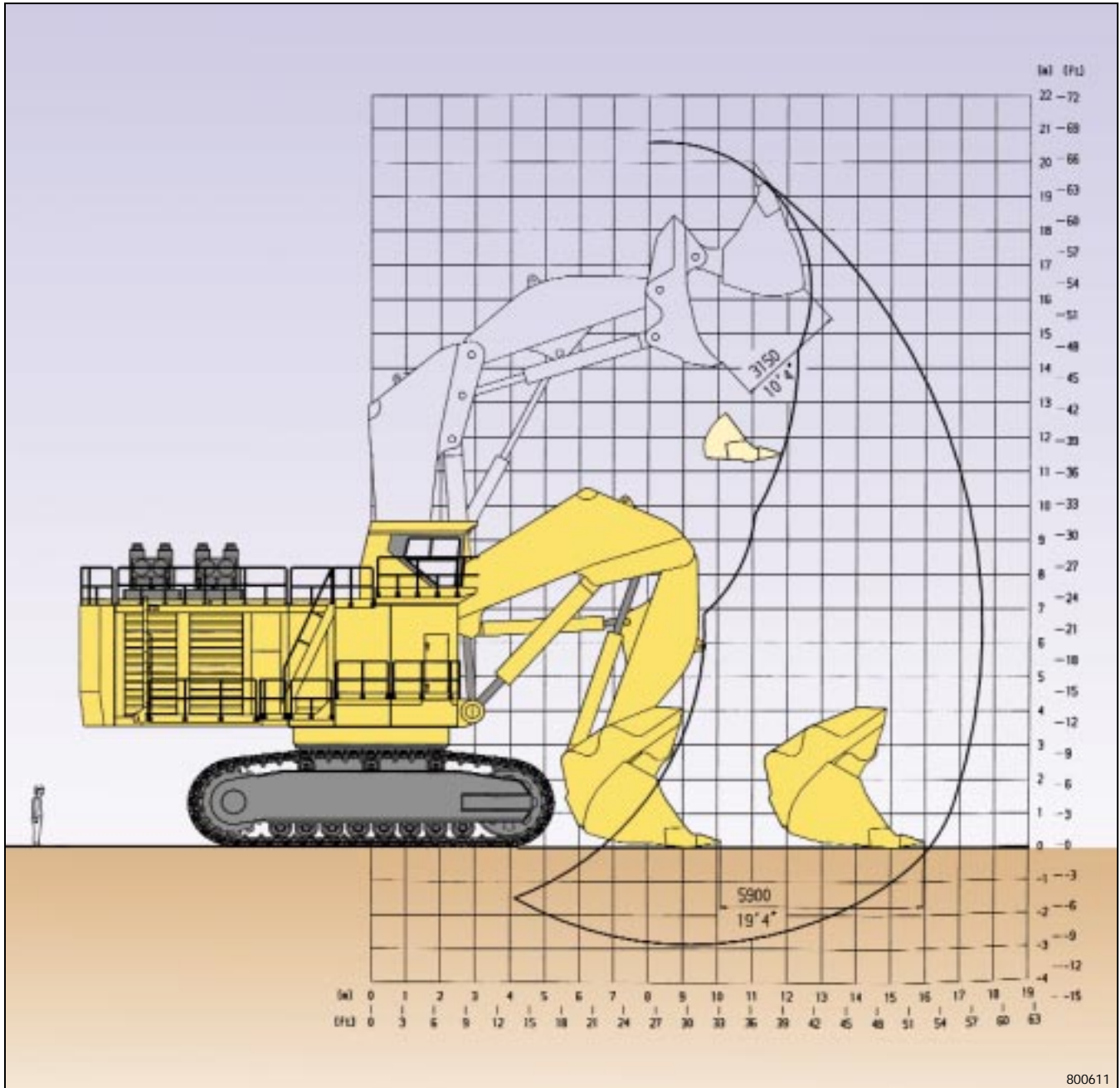


## BACKHOE BUCKET, STICK AND BOOM COMBINATION

Bucket Capacity	Width	Teeth	Weight	Boom Length
SAE Heaped 1 : 1			4600 mm 15'1"	6
38 m <sup>3</sup> 50 yd <sup>3</sup>	42.4 t 93,500 lb	5500 mm 18'0"		
□ Material density to 1.8 t/m <sup>3</sup> 3000 lb/yd <sup>3</sup>				

Alternative buckets/wear packages are available

# PC8000 Shovel



800611



## DIGGING FORCES

Break-out force	2320 kN	<b>521,500 lb</b>
Crowd force	2320 kN	<b>521,500 lb</b>

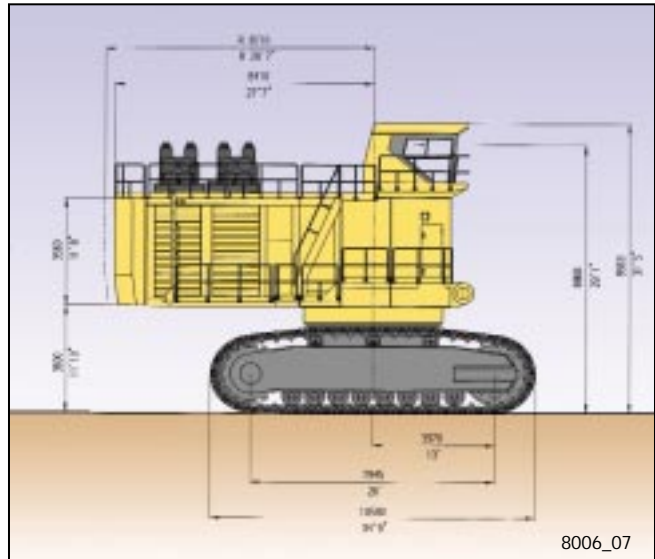
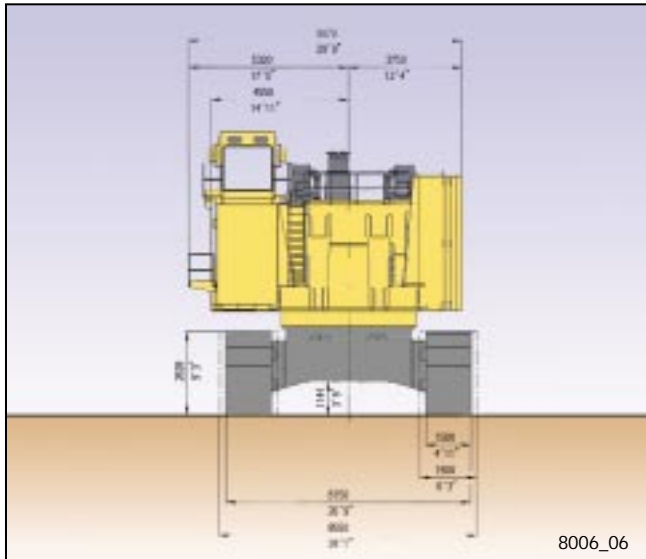
Level crowd at ground level . . . . .	5900 mm	<b>19'4"</b>
Maximum reach at ground level . . . . .	16100 mm	<b>52'10"</b>



## SHOVEL BUCKET, STICK AND BOOM COMBINATION

Bucket Capacity		Width	Teeth	Weight	Boom Length 8150 mm 26'9"
SAE/CECE Heaped 2 : 1	Heaped 1 : 1	5340 mm 17'6"	6	Including Wear Package-3	Stick Length 5750 mm 18'10"
38 m <sup>3</sup> 50 yd <sup>3</sup>	44 m <sup>3</sup> 57.6 yd <sup>3</sup>			58.2 t 128,300 lb	□ Material density to 1.8 t/m <sup>3</sup> 3000 lb/yd <sup>3</sup>

Alternative buckets/wear packages are available



## STANDARD EQUIPMENT

A hydraulic shovel will comprise:

### FRONT SHOVEL ATTACHMENT

8.15 m **26'9"** boom and 5.75 m **18'10"** stick complete with cylinders.

38 m<sup>3</sup> **50 yd<sup>3</sup>** (SAE 2:1) front shovel bucket with ESCO teeth and lip system.

### CRAWLER UNDERCARRIAGE

Heavy-duty shovel type undercarriage consisting of center carbody and 2 heavy box-type side frames, each having 8 bottom rollers, 3 top rollers, and 1500 mm **59"** cast steel crawler track. Hydraulic track adjustment and parking brake provided.

Electric version (only) fitted with slip-ring connectors mounted on the hydraulic rotary joint.

### SUPERSTRUCTURE

A main frame mounted over an externally toothed swing circle carries the platform component modules and the counterweight.

#### Diesel version

- Fuel tank module:
- Drive module:  
Two Komatsu SDA16V160 diesel engines, each driving 4 identical hydraulic pumps.

#### Electric version

- Electrical cabinet module:  
High voltage electrical control including SF6 vacuum master contactor, main fuses, and transformer for 415 V and 240 V supply
- Drive module:  
2 Squirrel cage induction motors, each with soft start and mounted with 4 identical main hydraulic pumps per motor.

Hydraulic tank module

Oil cooler module

Cab base module

Includes the low tension electrical cabinet.

#### OPERATOR'S CAB

Fully enclosed steel cab which incorporates the ISO 3449 standard.

FOPS structure and CARRIER SÚTRAK air-conditioning unit. Mounted on viscous pads. GRAMMER fully suspended seat with lap belt. Fold-away auxiliary seat. Full selection of controls, switches, and ECS (Electronic Control System).

Joystick and pedal-operated controls are electric over hydraulic. Windshield wash wiper with two-speed and intermittent operation (reservoir 7 ltr **1.8 gal**). AM-FM radio. Washbasin with running water (reservoir 50 ltr **13 gal**). Refrigerator and storage cabinets. Left and right hand sliding windows, external metal sunblinds. All windows tinted parsol green.

#### LIGHTING

- 8 x Xenon high performance working lights.
- 15 service lights.

#### LUBRICATION

LINCOLN central lubrication for basic machine, attachment, and bucket. 300 ltr **80 gal** refillable container.

LINCOLN automatic pinion lubrication system for swing gear with 300 ltr **80 gal** refillable container.

WIGGINS service center mounted on a hydraulically powered swing-down arm for fill of fuel, engine oil and coolant (not electric version), hydraulic oil, grease, cab water and the evacuation of coolant and hydraulic and engine oils (not electric version).

#### ACCESSORIES

- Acoustic reverse travel alarm
- Hydraulically actuated ground access ladder
- Electric air horn



## OPTIONAL EQUIPMENT

- 1900 mm **75"** track shoes
- Auxiliary diesel generator
- Cable reel (electric version)

- Service crane
- KIM hot start
- Fire-suppression system

- Low temperature package
- Extra or alternative lighting
- Alternative travel speed 3.2 kph **2 mph**
- Power step personal access (electric)

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# KOMATSU®

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