

# KOMATSU®

## PC8000-6 Super Shovel

**OPERATING WEIGHT**  
700-720 ton 1,540,000-1,590,000 lb

**SHOVEL CAPACITY**  
42 m<sup>3</sup> 55 yd<sup>3</sup> SAE 2:1 heaped

**BACKHOE CAPACITY**  
42 m<sup>3</sup> 55 yd<sup>3</sup> SAE 1:1 heaped

**PC**  
**8000**

HYDRAULIC SHOVEL



Photo may include optional equipment.

# WALK-AROUND

## ***Komatsu Technology and Expertise***

- Quality management ISO 9001 certified
- Environmental Management ISO 14001 certified
- High, consistent quality through continuous investment in personnel, design and manufacturing systems and processes

## **Reliability and Durability**

Designed for lower operating costs

- Robust structural design developed from field experience and finite element analysis
- Extended life undercarriage wear parts
- Large diameter rollers, idlers and sprockets
- Large surface contact area with extensive precision hardening reduces wear
- Hardened track link pin bores

## **Productivity**

Designed for more tons per hour

- Powerful digging forces
- Easy bucket filling
- Proven attachment design
- All cylinders mounted under the shovel attachment for additional protection
- Buckets and Wear Packages to suit all material densities and ground conditions

## **Powerful Diesel Engines**

Two Komatsu SDA16V160 engines

- Rated (each) 1500 kW **2010 HP**, at 1800 rpm
- Electronic engine management
- Low engine emission levels – meets EPA Tier 2 emission regulations
- Time saving oil management system as standard equipment; Centinel Engine Oil Management, Engine Reserve Oil Supply and Eliminator Oil Filter systems

## **Advanced Hydraulics**

Extended reliability and control

- Comprehensive monitored filtration
- Simple open-circuit hydraulic system with high efficiency swing-out oil coolers



**Large Comfortable Cab**

Provides full shift comfort

- Komatsu low noise cab on multiple viscous mounts for reduced noise and vibration
- Large volume cab with full view front window (floor to ceiling) increases operator view
- Comprehensive climate control with pressurized, filtered air ventilation and air conditioning
- High specification multi-adjustable air suspension seat, redesigned for mining
- Well elevated operator position provides superior all around view

**MATCHED FOR TRUCKS  
240 U.S. TON AND LARGER**

**SHOVEL BUCKET**  
42 m<sup>3</sup> 55 yd<sup>3</sup> SAE 2:1 heaped

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

**MAIN DRIVE**

DIESEL:

2 x 1500 kW 2 x 2010 HP

ELECTRIC:

2 x 1450 kW



Photo may include optional equipment.

**Easy Maintenance**

Simple, common-sense design gives quick, easy access to all major components

- Hydraulically operated ground access ladder
- Generous access to all major service points from machinery house floor level
- Enclosed, internally lit machinery house with wall separating engine from pump area
- Automatic central lubrication
- Electronic Control System (ECS) provides real-time information from the operating systems of the machine
- Ground-level access to hydraulically powered drop-down service center with Wiggins connections

**Worldwide Experience**

The PC8000 is the world's largest series built hydraulic mining shovel and proven in key mining areas. 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.



## ELECTRICAL SYSTEM (Diesel Version)

System	24 V
Batteries (series/parallel)	8 x 12 V
Alternator	2 x 100 A
Standard working lights	8 Xenon Lights
Standard service lights	15 lights

\*Optional lighting upon request



## UNDERCARRIAGE

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

Center frame	H-type
Track frame	Steel box-section
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



## DRIVES AND BRAKES

Travel control	2 foot pedals
Gradeability	Up to 50%
Travel speed (maximum)	2.4 km/h <b>1.5 mph</b>
Service brake	Hydraulic
Parking brake	Wet, multiple-disc



## SWING SYSTEM

Hydraulic motors and drives	3
Swing brake, service	Hydraulic
Swing brake, parking	Wet, multiple-disc
Swing ring teeth	External
Swing speed (maximum)	2.7 rpm



## ELECTRIC DRIVE

Type	2 x Squirrel-cage induction motors
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



## ELECTRICAL 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	2070 ltr/min	<b>547 gpm</b>

High pressure in-line filters (one per pump located at the valve blocks) . . . . . 200 micron

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

Case drain/by-pass return line filters . . . . . 3 micron

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 six large swing-out vertical air-to-oil hydraulic coolers with temperature-regulated hydraulically driven fans.



## 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 Electronic Control System (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 liters (**2 x 80 gal.**). Replenishment of the containers is through the Wiggins connections in the service center.



## SERVICE REFILL 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	13500 ltr	<b>3,564 U.S. gal</b>
Engine coolant	2 x 475 ltr	<b>2 x 125 U.S. gal</b>
Engine oil	2 x 290 ltr	<b>2 x 77 U.S. gal</b>
Centinel engine oil make up tank	2 x 670 ltr	<b>2 x 180 U.S. gal</b>

### CAB

The large welded steel cab is mounted with 18 viscous damping pads and sound insulated.

It is equipped with automatic climate control and is pressurized. The operator's seat is fully adjustable, air suspended, electrically heated and has a lap seat belt. Fold-away trainer's seat.

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

Full instrumentation and Electronic Control System (ECS) are provided. Space in the console is provided for an additional monitor. AM/FM radio is included. The dual windshield wipers have two-speed and intermittent operation (water reservoir 7 liters **1.8 gal.**). Amenities include a wash basin with running water, water reservoir (50 liters **13 gal.**), refrigerator, and storage cabinets. Powered mirrors are adjustable from inside the cab.

There are left and right-hand sliding windows. All windows are tinted parsol green. External metal louvers are provided on the cab side windows.

Cab engineering standards are;

- ISO 3449 Falling Objects Protection Structure (FOPS) Level 2
- ISO 6396 Noise in operator's cab is 76dB(A)
- ISO 2631-1/5349-1 Vibration and Shock
- Air conditioner . . . . .10 kW **34,120 Btu/hr**
- Heater/Defroster (Diesel version) . . . . .10 kW **34,120 Btu/hr**
- Heater/Defroster (Electric version) . . . . .12 kW **40,940 Btu/hr**

### ECS VEHICLE MONITORING SYSTEM

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

### OPERATING WEIGHTS (APPROXIMATE)

#### PC 8000 Backhoe:

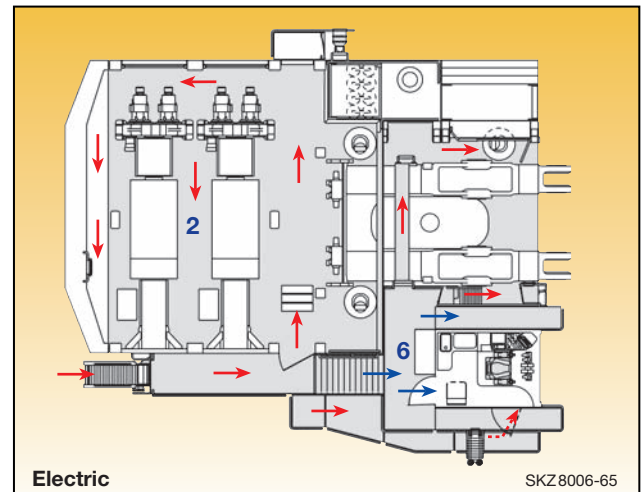
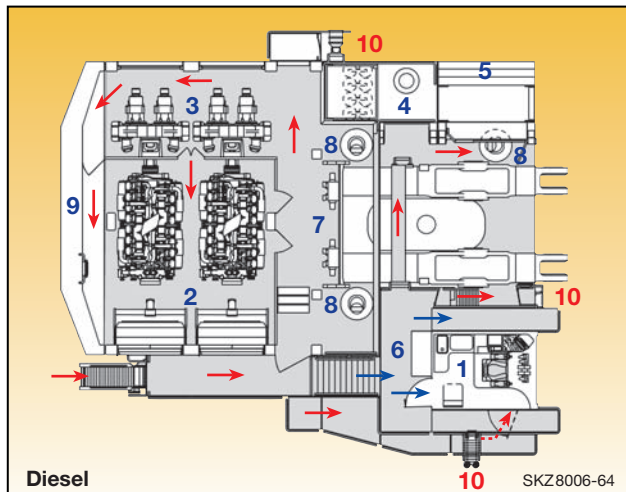
Operating weight including 11500 mm **37'9"** boom, 5500 mm **18'0"** stick, 38 m<sup>3</sup> **50.0 yd<sup>3</sup>** backhoe bucket, operator, lubricant, coolant, full fuel tank and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1500 mm 59"	710 t 1,565,000 lb	26.7 N/cm <sup>2</sup> 38.7 psi
1900 mm 75"	720 t 1,590,000 lb	21.4 N/cm <sup>2</sup> 31.0 psi

#### PC 8000 Front Shovel:

Operating weight including 8150 mm **26'9"** boom, 5750 mm **18'9"** stick, 42 m<sup>3</sup> **55.0 yd<sup>3</sup>** shovel bucket, operator, lubricant, coolant, full fuel tank and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1500 mm 59"	700 t 1,540,000 lb	26.3 N/cm <sup>2</sup> 38.1 psi
1900 mm 75"	710 t 1,565,000 lb	21.2 N/cm <sup>2</sup> 30.7 psi



#### 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 | 10 Secondary Egress |

#### Variation for Electric

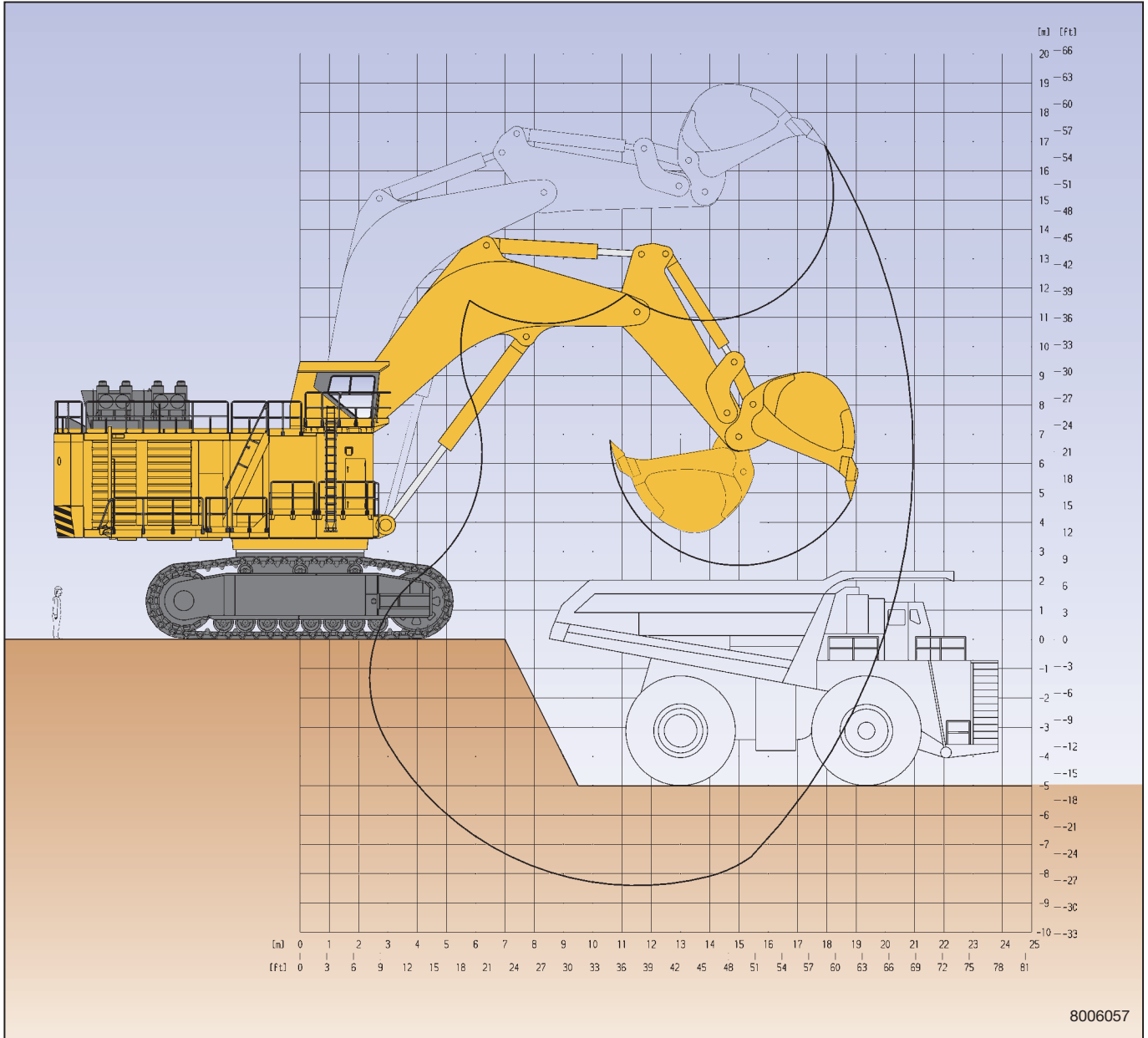
- Drive Version
- 2 Electric Motors
  - 6 High Voltage Electric Cabinet

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

# PRODUCTIVITY FEATURES



**BACKHOE BUCKET, STICK AND BOOM COMBINATION**



8006057

<b>Boom length</b>	11500 mm	<b>37'9"</b>
<b>Stick length</b>	5500 mm	<b>18'0"</b>
<b>Break-out force (SAE)</b>	2000 kN	<b>449,500 lb</b>
<b>Tear-out force (SAE)</b>	1800 kN	<b>404,600 lb</b>

<b>Max. digging depth</b>	8400 mm	<b>27'7"</b>
<b>Max. digging reach at ground level</b>	19900 mm	<b>65'4"</b>

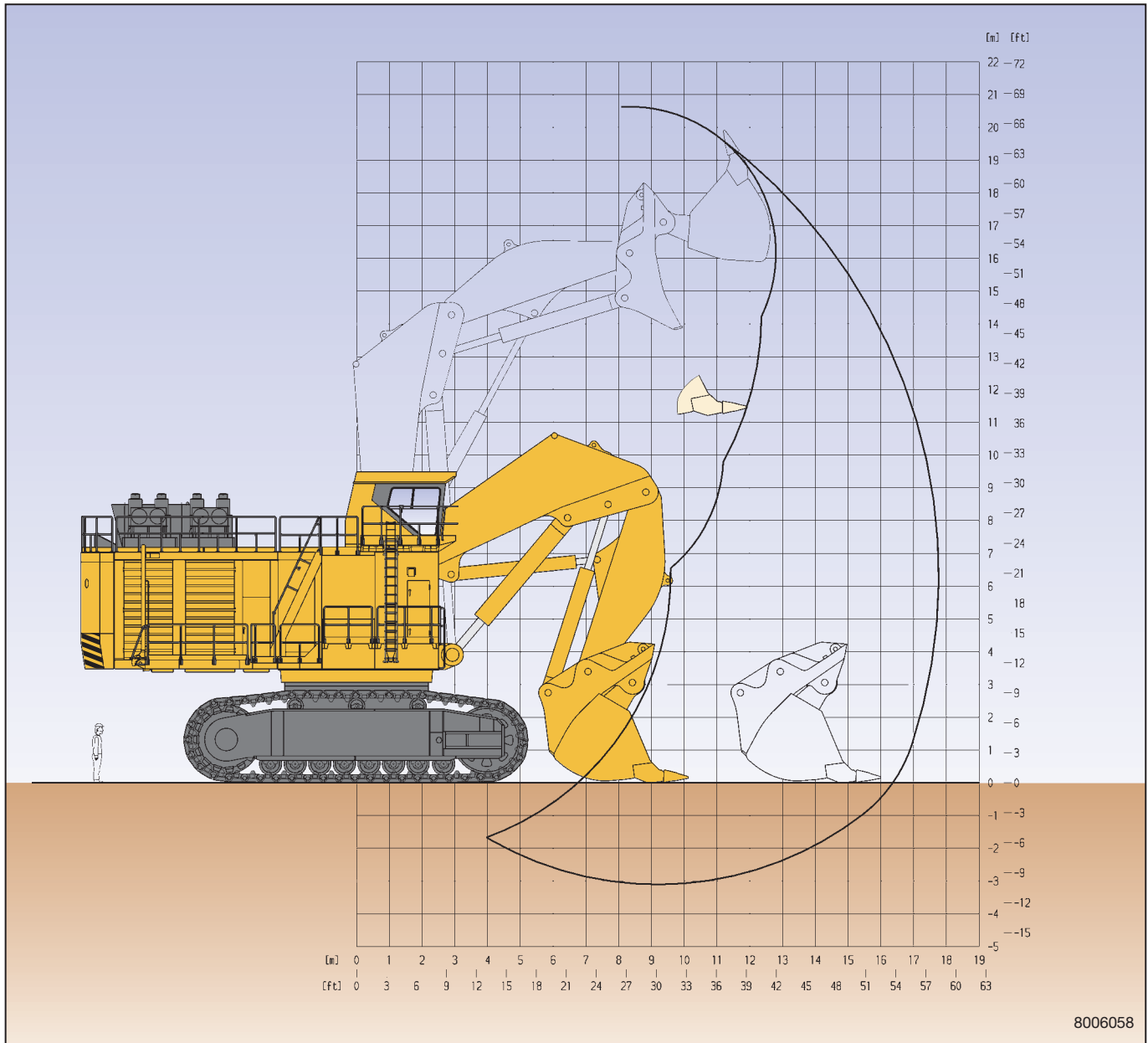
<b>Bucket Capacity</b> (Heaped 1:1) SAE		<b>Width</b>		<b>Teeth</b>	<b>Weight*</b>		<b>Max. Material Density (Loose)</b>		<b>Wear Package</b>
m <sup>3</sup>	yd <sup>3</sup>	mm	ft and in	qty	t	lb	t/m <sup>3</sup>	lb/yd <sup>3</sup>	
38	<b>50</b>	4830	<b>15'10"</b>	6	45.5	<b>100,300</b>	1.8	<b>3,000</b>	WP-2
42	<b>55</b>	4780	<b>15'8"</b>	6	40.3	<b>88,900</b>	1.7	<b>2,900</b>	WP-1

Alternative buckets on request

\* Weight includes Backhoe Bucket, Stick and Boom Combination



SHOVEL BUCKET, STICK AND BOOM COMBINATION



8006058

<b>Boom length</b>	8150 mm	<b>26'9"</b>
<b>Stick length</b>	5750 mm	<b>18'9"</b>
<b>Break-out force (SAE)</b>	2320 kN	<b>521,500 lb</b>
<b>Crowd force (SAE)</b>	2320 kN	<b>521,500 lb</b>

<b>Max. dumping height</b>	13900 mm	<b>45'7"</b>
<b>Level crowd at ground level</b>	5900 mm	<b>19'4"</b>

Bucket Capacity				Width	Teeth	Weight*		Max. Material Density (Loose)		Wear Package	
SAE/CECE	Heaped 2:1		Heaped 1:1			t	lb	t/m³	lb/yd³		
m³	yd³	m³	yd³	mm	ft and in	qty					
42	55	48	63	5630	18'6"	6	67.2	148,000	1.8	3,000	WP-3

Alternative buckets on request

\* Weight includes Shovel Bucket, Stick and Boom Combination



## STANDARD EQUIPMENT

Hydraulic Mining Shovel will comprise:

### FRONT SHOVEL ATTACHMENT

8.15 m **26'9"** boom and 5.75 m **18'9"** stick complete with cylinders. 42 m<sup>3</sup> **55 yd<sup>3</sup>** (SAE 2:1) shovel bucket with mechanical teeth and lip system.

OR

### BACKHOE ATTACHMENT

11.5 m **37'9"** boom and 5.5 m **18'0"** stick with 38 m<sup>3</sup> **50 yd<sup>3</sup>** (SAE 1:1) bucket with mechanical teeth and lip system.

### CRAWLER UNDERCARRIAGE

Heavy-duty shovel type undercarriage consisting of a center carbody and 2 heavy box-type track frames, each having 8 bottom rollers, 3 top rollers, and 1500 mm **59"** cast steel track shoes.

Hydraulic track adjustment and parking brake provided.

### 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
- 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 Level 2 structure and CARRIER SÜTRAK air-conditioning unit. Mounted on viscous pads. GRAMMER full suspended seat with lap-belt. Fold-away trainer's seat. Full selection of controls, switches, and Electronic Control System (ECS). Joystick and pedal-operated controls are electric over hydraulic. Dual windshield wipers 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 Xenon high performance lights. 15 service lights throughout platform.

### LUBRICATION

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

LINCOLN automatic pinion lubrication system for swing circle teeth with 300 ltr **80 gal** refillable container from service center.

Service center (diesel version only as standard) on hydraulic arm carrying WIGGINS fluid receiving connectors for filling of fuel, engine oil and coolant, hydraulic oil, grease, cab water and the evacuation of coolant, and hydraulic and engine oils.

### ACCESSORIES

- Acoustic travel alarm
- Hydraulically actuated ground access ladder
- Electric air horn
- Engine oil management package (Centinel, Reserve & Eliminator systems)



## OPTIONAL EQUIPMENT

- 1900 mm **75"** track shoes
- Auxiliary diesel generator
- Backhoe bucket, 42 m<sup>3</sup> **55 yd<sup>3</sup>**
- Cable reel (Electric version)
- Electric drive
- Fire suppression and detection system
- Lighting, extra or alternative
- Low temperature package (incl. KIM hot start)
- Service crane

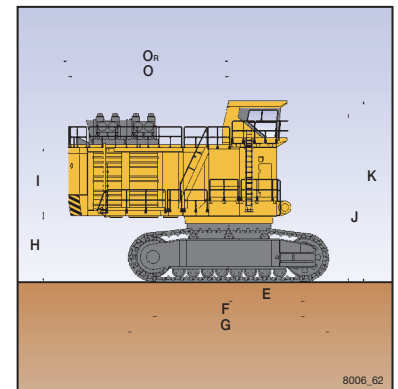
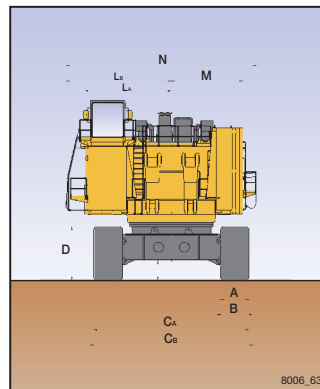


## DIMENSIONS

### BASIC MACHINE WITH COUNTERWEIGHT

A	1500 mm	<b>59"</b>	I	3550 mm	<b>11'8"</b>
B	1900 mm	<b>75"</b>	J	8780 mm	<b>28'10"</b>
C <sub>A</sub>	8150 mm	<b>26'9"</b>	K	9500 mm	<b>31'2"</b>
C <sub>B</sub>	8550 mm	<b>28'1"</b>	L <sub>A</sub>	4550 mm	<b>14'11"</b>
D	2830 mm	<b>9'3"</b>	L <sub>B</sub>	5530 mm	<b>18'1"</b>
E	3970 mm	<b>13'0"</b>	M	3750 mm	<b>12'4"</b>
F	7945 mm	<b>26'0"</b>	N	10000 mm	<b>32'10"</b>
G	10515 mm	<b>34'6"</b>	O	8410 mm	<b>27'7"</b>
H	3470 mm	<b>11'5"</b>	O <sub>R</sub>	8710 mm	<b>28'7"</b>

Ground Clearance: 1144 mm **3'9"**



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