

# KOMATSU®

## PC8000 Mining Shovel

PC8000

**OPERATING WEIGHT**  
1,658,000–1,713,000 lb  
752–777 ton

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

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



PHOTOS MAY INCLUDE OPTIONAL EQUIPMENT



Photos may include optional equipment



# PC8000

## Mining Shovel

### MATCHES

240 to 400 U.S. ton trucks

### SHOVEL CAPACITY

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

### BACKHOE CAPACITY

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



### Quality

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

### Reliability and Durability

- Robust structural design developed from field experience and finite element analysis

### Undercarriage

- Large diameter rollers, idlers and sprockets
- Large surface area and extensive precision hardening reduce track wear
- Hardened track link pin bores

### Productivity

- Powerful digging forces
- Ease of bucket filling
- Proven bucket and front shovel design
- All cylinders mounted in the shadow of the attachment for protection
- Buckets and wear packages to suit all material densities and properties

### Advanced Hydraulics

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

### Large Comfortable Cab

- Gives full shift comfort
- Komatsu low noise cab on multiple viscous mounts for reduced noise and vibration
- Large volume cab with large scale front window
- Comprehensive climate control with pressurized filtered air ventilation and air conditioning
- High specification multi-adjustable air suspension seat
- Well elevated operator position giving good all round view

### Powerful Diesel Engine

- Two Komatsu SDA16V160E-2 engines Tier 2 for North America
- Rated (each) 1500 kW **2100 HP** at 1800 rpm
- Electronic engine management
- Time saving Engine Oil Management System; Centinel, Engine Reserve Oil Supply and Eliminator Oil Filter system

### Easy Maintenance

- Simple, common-sense design provides easy access to all major components
- Generous access to all major service points from machinery house floor level
- Enclosed, walk-in machinery house with partition wall separating engine from pump area
- Automatic central lubrication
- KOMTRAX Plus electronic monitoring system providing real time information about the operating status of the machine
- Ground-level access to hydraulically powered swing down service arm with Wiggins connections

## KOMTRAX®

Komtrax equipped machines can send location, SMR and operation maps to a secure website utilizing wireless technology. Machines also relay error codes, cautions, maintenance items, fuel levels, and much more.

**DIESEL DRIVE**

Model..... 2 x Komatsu SDA16V160E-2 Tier 2  
 Type.....Water-cooled, 4-cycle, direct injection  
 Aspiration..... Turbocharged and aftercooled  
 Number of cylinders..... 16  
 Rated power ..... 2 x 1500 kW **2,100 HP**  
 SAE J1995 (Gross)

Rated rpm..... 1800  
 Governor.....All-speed, electronic

The integrated engine oil and filter system combining the oil stabilizing systems, Reserve and Centinel, with Eliminator oil filter extends the oil change interval up to 4,000 hours based on oil analysis. The high capacity Mesabi engine radiators are cooled by a hydraulically driven fan for superior cooling efficiency.

**HYDRAULIC SYSTEM**

The power train consists of two main drives. 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 **2,190 gal/min**  
 Relief valve setting ..... 310 bar **4,495 psi**  
 Swing flow rate..... 2070 ltr/min **547 gal/min**  
 High pressure in line filters ..... 200 microns  
 one per pump located at the valve blocks  
 Full flow return line filters (7 elements) ..... 10 microns  
 at head of hydraulic tank  
 Case drain/by-pass return line filters ..... 3 microns

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

**TRAVEL AND BRAKE SYSTEMS**

Travel control..... 2 foot pedals  
 Gradeability..... Up to 50%  
 Maximum travel speed..... 2.4 km/h **1.5 mph**  
 Service brake.....Hydraulic brake  
 Parking brake..... Wet multiple-disc brake

**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) ..... 2.7 rpm

**UNDERCARRIAGE**

Undercarriage consists of one center carbody and two track frames, each side attached by high torque bolts.

Center frame..... H-type  
 Track frame..... Steel box-section

**CRAWLER ASSEMBLY**

Track adjustment ..... Automatic hydraulic type  
 Number of track shoes (each side) ..... 49  
 Number of top rollers (each side) ..... 3  
 Number of bottom rollers (each side)..... 8

**ELECTRIC SYSTEM (DIESEL VERSION)**

System ..... 24 V  
 Batteries (series/parallel) ..... 8 x 12 V  
 Alternator ..... 2 x 100 A  
 Standard working lights ..... 14 Xenon lights  
 Standard service lights ..... throughout platform

**ELECTRIC SYSTEM (ELECTRIC VERSION)**

System ..... 24 V  
 Batteries (series/parallel) ..... 4 x 12 V  
 Standard working lights ..... 14 Xenon lights  
 Standard service lights ..... throughout platform

**ELECTRIC DRIVE**

Type..... 2 x Squirrel-cage induction motor  
 Power output ..... 2 x 1450 kW  
 Voltage ..... 6,000 – 7,200 V\*  
 Amperage (approximate) ..... 2 x 155 A – 2 x 128 A  
 Frequency standard ..... 60 Hz @ 1800 rpm  
 Frequency option ..... 50 Hz @ 1500 rpm

\* Other voltages available on request

**AUTOMATIC CENTRALIZED LUBRICATION**

Three hydraulically powered Lincoln single line automatic lubrication systems are provided as standard, complete with time and volume variable controls. The two central lubrications and open gear lubricant are supplied by identical pump assemblies from refillable containers which have a capacity of (3 x 300 liters) **3 x 80 U.S. gal**. Replenishment of the containers is through the Wiggins connections on the service arm.

**SERVICE CAPACITIES**

Hydraulic oil tank..... 8350 ltr **2,206 U.S. gal**  
 Hydraulic system..... 11500 ltr **3,040 U.S. gal**  
 Fuel..... 13900 ltr **3,672 U.S. gal**  
 Engine coolant ..... 2 x 475 ltr **2 x 125 U.S. gal**  
 Engine oil..... 2 x 290 ltr **2 x 77 U.S. gal**  
 Reserve engine oil make up tank..... 2 x 1056 ltr **2 x 279 U.S. gal**



## OPERATOR CAB

The large and comfortable cab is mounted on 18 viscous damping pads and sound insulated. The cab has an automatic climate control and is pressurized. The operator's seat is air suspended, electrically heated and has a lap seat belt and offers multiple adjustments. The trainer seat is also equipped with a lap seat belt. Low-effort joystick controls are electric over hydraulic with foot controls for front shovel clam, crawler and swing brake. Full instrumentation, KOMTRAX Plus and an AM/FM radio with MP3 ready CD player is fitted. The windshield wash wiper has two speeds and intermittent operation. Amenities include a refrigerator and storage cabinets. Powered and heated mirrors are adjusted from inside the cab. External metal sun blinds on the cab side window and internal roller blinds on all windows are standard. The right hand window is an emergency exit. All windows are tinted parsol green.

Cab engineering standards are:

- ISO 3449 Falling Objects Protection Structure (FOPS Level II)
- ISO 6396 Noise in operator's cab is 78 dB(A)
- ISO 2631-1 Whole body vibration and shock below 0.5 m/s<sup>2</sup>
- ISO 5349-1 Hand-lever vibration lower 2.5 m/s<sup>2</sup>
- ISO 10263-4 Heating and air conditioning  
second heater and air conditioner as option

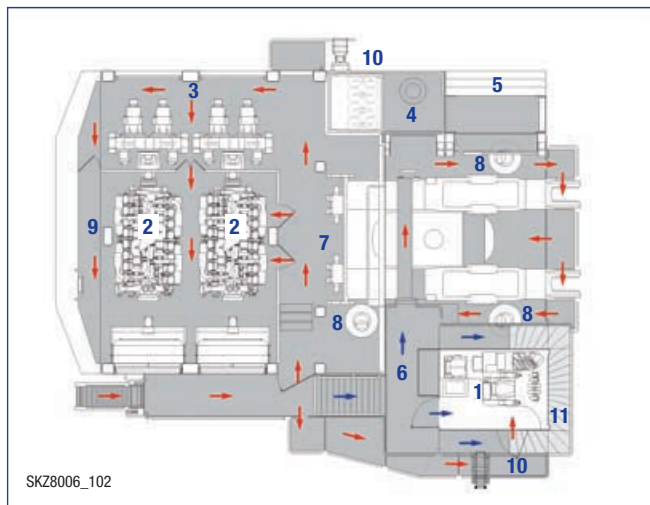


## OPERATING WEIGHT (APPROXIMATE)

### PC8000 Backhoe:

Operating weight including 11500 mm **37'9"** boom, 5500 mm **18'0"** stick, 42 m<sup>3</sup> **55.0 yd<sup>3</sup>** backhoe bucket, operator, lubricant, coolant, 1/3 fuel tank and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1500 mm <b>59"</b>	763 t <b>1,671,000 lb</b>	27.9 N/cm <sup>2</sup> <b>40.4 psi</b>
1900 mm <b>75"</b>	777 t <b>1,713,00 lb</b>	22.4 N/cm <sup>2</sup> <b>32.5 psi</b>



### Diesel Drive

- |                     |                         |
|---------------------|-------------------------|
| 1 Cab               | 7 Valve Blocks          |
| 2 Diesel Engines    | 8 Swing Motors          |
| 3 Hydraulic Pumps   | 9 Counterweight         |
| 4 Hydraulic Tank    | 10 Secondary Egress     |
| 5 Hydraulic Coolers | 11 See-through Cat Walk |
| 6 Fuel Tank         |                         |



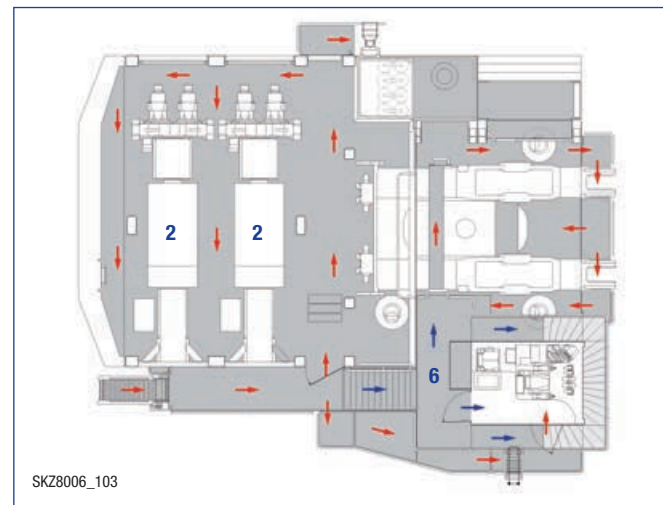
## VEHICLE HEALTH MONITORING SYSTEM

KOMTRAX Plus is designed for Komatsu mining equipment to provide real time information about the operating status of the machine via a colored display. The integrated digital storage provides a full event history and trend data, which can be downloaded by laptop and satellite modem, optional W-LAN.

### PC8000 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, 1/3 fuel tank and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1500 mm <b>59"</b>	752 t <b>1,658,000 lb</b>	27.5 N/cm <sup>2</sup> <b>39.9 psi</b>
1900 mm <b>75"</b>	767 t <b>1,691,00 lb</b>	22.1 N/cm <sup>2</sup> <b>32.0 psi</b>



### Variation for Electric Drive Version

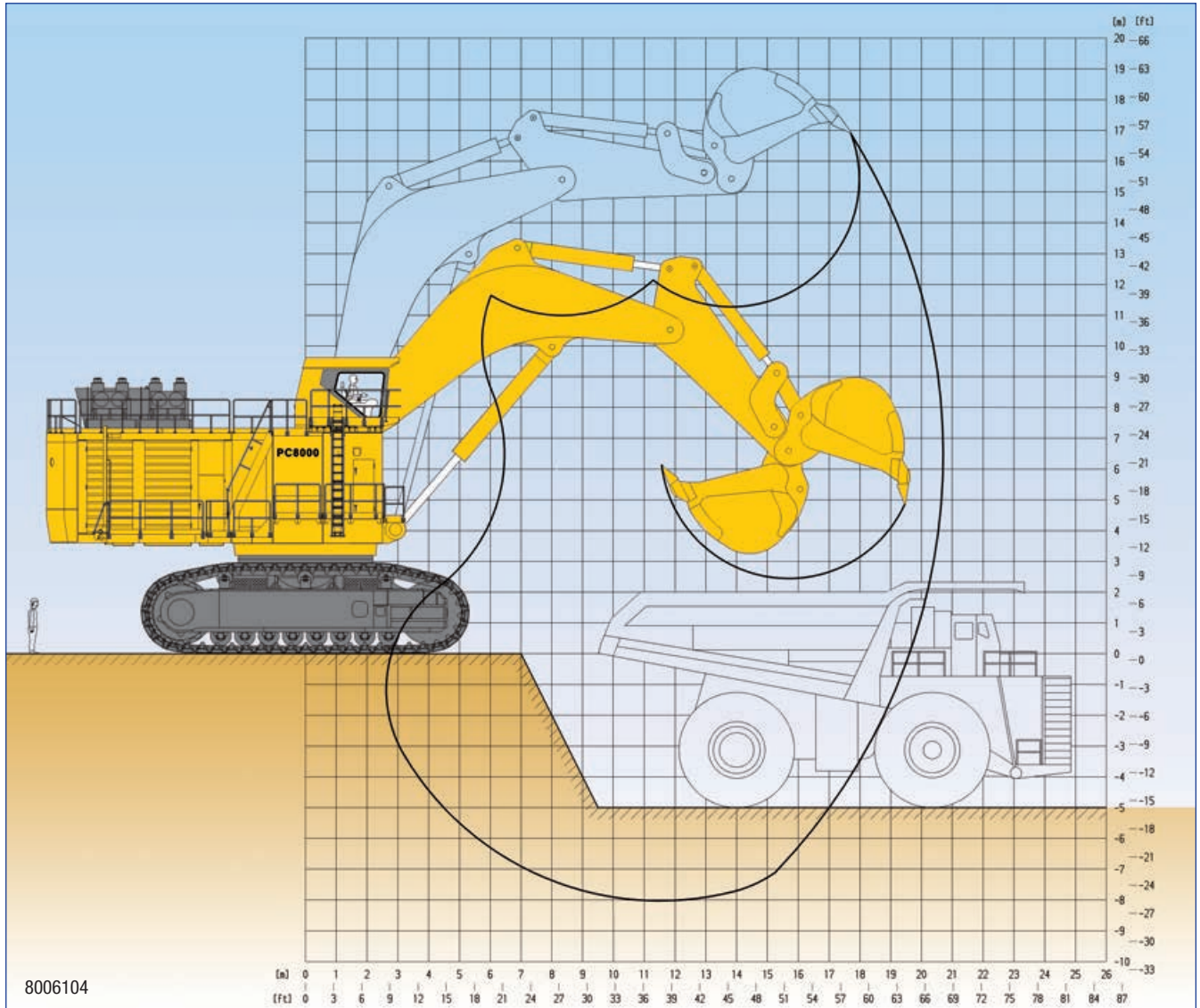
- |                                 |
|---------------------------------|
| 2 Electric Motors               |
| 6 High Voltage Electric Cabinet |

Walkways  
← Lower-Level  
← Upper-Level



## BACKHOE ATTACHMENT

PC8000



8006104

Boom length	11500 mm	<b>37'9"</b>
Stick length	5500 mm	<b>27'7"</b>
Break-out force (SAE)	2000 kN	<b>449,500 lb</b>
Tear-out force (SAE)	1800 kN	<b>404,600 lb</b>

Max. digging height	16900 mm	<b>55'5"</b>
Max. dumping height	11200 mm	<b>36'9"</b>
Max. digging depth	8000 mm	<b>26'3"</b>
Max. digging reach	20700 mm	<b>67'11"</b>
Max. digging reach at ground level	19600 mm	<b>64'4"</b>

Bucket Capacity (Heaped 1:1) SAE		Width		Teeth	Wear Package	Weight		Max. Material Density (Loose)		Recommended Mining Uses
m <sup>3</sup>	yd <sup>3</sup>	mm	foot/inch	qty	*)	t	lb	t/m <sup>3</sup>	lb/yd <sup>3</sup>	
42.0	<b>55.0</b>	4575	<b>15'0"</b>	6	2	48.0	<b>105,840</b>	1.8	<b>3,000</b>	Standard

\*) WP 1 Light abrasive

WP 2 Medium abrasive

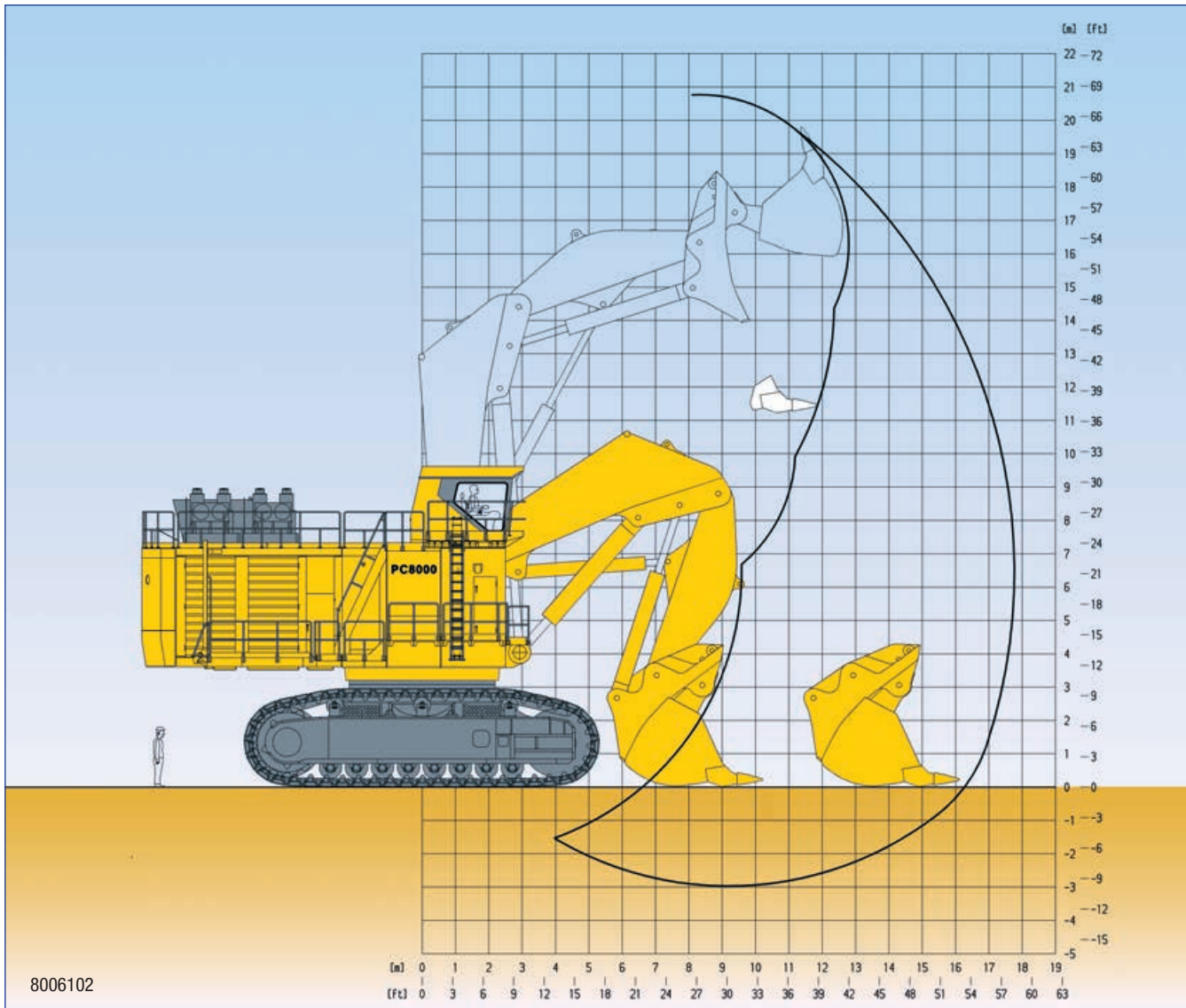
WP 3 Severe abrasive

**Alternative buckets on request**





## FRONT SHOVEL ATTACHMENT



8006102

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

Max. digging height	20900 mm	<b>68'7"</b>
Max. dumping height	13900 mm	<b>45'7"</b>
Max. digging depth	3000 mm	<b>9'10"</b>
Max. digging reach	17800 mm	<b>58'5"</b>
Level crowd at ground level	5900 mm	<b>19'4"</b>
Bucket opening width	3200 mm	<b>10'6"</b>

Bucket Capacity (Heaped 1:2) SAE		Width		Teeth	Wear Package	Weight		Max. Material Density (Loose)		Recommended Mining Uses
m <sup>3</sup>	yd <sup>3</sup>	mm	foot/inch	qty	*)	t	lb	t/m <sup>3</sup>	lb/yd <sup>3</sup>	
28.0	<b>37.0</b>	4575	<b>15'0"</b>	6	4	62.3	<b>137,370</b>	2.8	<b>4,700</b>	Severe
36.0	<b>47.0</b>	5375	<b>17'8"</b>	6	4	70.7	<b>155,890</b>	2.0	<b>3,400</b>	Severe
42.0	<b>55.0</b>	5375	<b>17'8"</b>	6	3	69.7	<b>153,690</b>	1.8	<b>3,000</b>	Standard

\*) WP 1 Non abrasive

WP 2 Light abrasive

WP 3 Medium abrasive

WP 4 Severe abrasive

**Alternative buckets on request**



## STANDARD EQUIPMENT

### HYDRAULIC MINING SHOVEL

#### FRONT SHOVEL ATTACHMENT

- 8.15 m **26'9"** boom
- 5.75 m **18'9"** stick
- Set of cylinders
- 42 m<sup>3</sup> **55 yd<sup>3</sup>** (SAE 2:1) shovel bucket WP3, with hammerless GET system

#### OR

#### BACKHOE ATTACHMENT

- 11.5 m **37'9"** boom
- 5.5 m **18'0"** stick
- Set of cylinders
- 42 m<sup>3</sup> **55 yd<sup>3</sup>** (SAE 1:1) bucket WP2, with hammerless GET system

#### CRAWLER UNDERCARRIAGE

- Heavy-duty shovel type undercarriage
- 2 heavy box-type track frames
- 8 bottom rollers and 3 top rollers each side
- 1500 mm **59"** cast steel track shoes
- Hydraulic track adjustment and parking brake

#### SUPERSTRUCTURE

- Main frame mounted over an externally toothed swing circle carries the drive module
- 2 x Komatsu SDA16V160E-2 diesel engines
- Hydraulic components
- Counterweight

#### LIGHTING

- 14 Xenon high performance working lights
- Service lights throughout platform

#### OPERATOR CAB

- Enclosed steel cab mounted on viscous pads
- FOPS according ISO 3449 (Level II)
- Air-conditioning
- Full suspension operator seat
- Trainer seat
- Controls in operator comfort zone
- KOMTRAX Plus (Monitoring System)
- Joysticks and controls are electric over hydraulic
- 1 large parallel windshield washer wiper
- AM-FM radio with MP3 ready CD player
- Internal and external sun blinds
- All windows tinted parsol green

#### LUBRICATION AND SERVICE

- LINCOLN central lubrication for basic machine and attachment
- LINCOLN central lubrication for bucket and bucket stick assembly
- LINCOLN automatic pinion lubrication system for swing circle teeth
- WIGGINS service arm carrying fluid receiving connectors for filling of fuel, engine oil and coolant, hydraulic oil, grease, and the evacuation of coolant, hydraulic and engine oils

#### ACCESSORIES INCLUDED

- Acoustic travel alarm
- Hydraulically actuated ground access ladder
- Electric air horn
- Engine turbo and exhaust pipes cover
- Engine oil management package (Centinel, Reserve & Eliminator systems)
- Service transfer oil pump
- Rails and steps on boom
- Tie off points on boom



## OPTIONAL EQUIPMENT

- 1900 mm **75"** track shoes
- Additional lighting
- Fire suppression system
- Electric drive
- Cable reel (Electric version)
- Service crane (Electric version)
- Low temperature package (-40 °F to -58 °F) incl. KIM hot start



## DIMENSIONS

Basic Machine with Counterweight					
<b>A</b>	1500 mm	<b>4'11"</b>	<b>J</b>	3560 mm	<b>11'8"</b>
<b>B</b>	1900 mm	<b>6'3"</b>	<b>K</b>	8950 mm	<b>29'4"</b>
<b>C<sub>A</sub></b>	8330 mm	<b>27'4"</b>	<b>L</b>	9655 mm	<b>31'8"</b>
<b>C<sub>B</sub></b>	8730 mm	<b>28'8"</b>	<b>M<sub>A</sub></b>	5480 mm	<b>17'11"</b>
<b>D</b>	3055 mm	<b>10'0"</b>	<b>M<sub>B</sub></b>	4550 mm	<b>14'11"</b>
<b>E</b>	1095 mm	<b>3'7"</b>	<b>N</b>	3750 mm	<b>12'4"</b>
<b>F</b>	4050 mm	<b>13'3"</b>	<b>O</b>	10010 mm	<b>32'10"</b>
<b>G</b>	8100 mm	<b>26'7"</b>	<b>P</b>	8410 mm	<b>27'7"</b>
<b>H</b>	10735 mm	<b>35'3"</b>	<b>P<sub>R</sub></b>	8710 mm	<b>28'7"</b>
<b>I</b>	3615 mm	<b>11'10"</b>			

