KOMATSU

PC8000

SUPER SHOVEL

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

SHOVEL CAPACITY
42 m³ 55 yd³ SAE 2:1 heaped

BACKHOE CAPACITY
42 m³ 55 yd³ SAE 1:1 heaped
Building on the technology and expertise Komatsu has accumulated since establishment, GALEO presents customers worldwide with a strong, distinctive image of technological innovation and value. Designed for high productivity, safety and environmental considerations, GALEO machines reflect Komatsu’s commitment to contributing to the creation of a better world.

**Genuine Answers for Land and Environment Optimization**

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

**Advanced Hydraulics**

Extended reliability and precise control
- Comprehensive monitored filtration.
- Simple open circuit hydraulic system with high efficiency swing out oil coolers.

**Powerful Diesel Engine**

Two Komatsu SDA16V160 engines
- Rated (each) 1500 kW 2010 HP, at 1800 rpm.
- Electronic engine management.
- Low engine emission levels meet EPA regulations.
- Time saving oil management system fitted as standard; Centinel Engine Oil Management, Reserve Engine Oil Supply and Eliminator Oil Filter systems.

**Reliability and Durability**

Designed for lower operating costs
- Robust structural design developed from field experience and finite element analysis.
- Extended life undercarriage wear parts; Big diameter rollers, idlers and sprockets. Large surface area and extensive precision hardening. Hardened track link pin bores.
**Large Comfortable Cab**

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

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**Sustained High Production**

Designed for more tons per hour
- Powerful digging forces.
- Ease of bucket filling.
- Proven attachment design.
- All cylinders mounted under the shovel attachment for protection.
- Buckets and Wear Packages to suit all material densities and mining conditions.

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**Easy Maintenance**

Simple, common-sense design gives quick safe access to all major components
- Generous access to all major service points from machinery house floor level.
- Enclosed, internally lit machinery house with fire-wall separating engine from pump area.
- Automatic central lubrication.
- ECS 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.

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**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

**PC8000 Super Shovel**

#### Swing System
- **Swing System**
  - **Swing motors and drives**: 3
  - **Swing brake, service**: Wet, multiple-disc
  - **Swing ring teeth**: External
  - **Swing speed (maximum)**: 2.7 rpm

#### Travel and Brake Systems
- **Travel and Brake Systems**
  - **Travel control**: 2 foot pedals
  - **Gradeability**: Up to 50%
  - **Travel speed (maximum)**: 2.4 km/h 1.5 mph
  - **Service brake**: Hydraulic brake
  - **Parking brake**: Wet, multiple-disc

#### Diesel Drive
- **Diesel Drive**
  - **Model**: 2x Komatsu SDA16V160
  - **Type**: 4-cycle, water-cooled, direct injection
  - **Aspiration**: Turbocharged and aftercooled
  - **Number of cylinders**: 16
  - **Rated power**: 2x 1500 kW 2010 HP @ 1800 rpm
  - **Governor**: All-speed, electronic
  - **Swing speed (maximum)**: 2.7 rpm
  - **Swing ring teeth**: External
  - **Swing brake, parking**: Wet, multiple-disc
  - **Swing brake, service**: Hydraulic brake
  - **Parking brake**: Wet, multiple-disc
  - **Travel speed (maximum)**: 2.4 km/h 1.5 mph
  - **Gradeability**: Up to 50%
  - **Number of top rollers**: 3 each side
  - **Number of track shoes**: 48 each side
  - **Track adjustment**: Automatic hydraulic type
  - **Track frame**: Steel box-section
  - **Center frame**: H-type frames, each attached by four large diameter hardened pins

#### Undercarriage
- **Undercarriage**
  - **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

#### Electric Drive
- **Electric Drive**
  - **Type**: 2 x Squirrel-cage induction motor
  - **Power output**: 2x 1450 kW 2010 HP @ 1800 rpm
  - **Voltage**: 6600 V*
  - **Amperage (approximate)**: 2 x 155 A
  - **Frequency (standard)**: 2070 l/min @ 1500 rpm
  - **Optional frequency**: 50 Hz @ 1800 rpm
  - **Other voltages available on request

#### Electric System (Electric Version)
- **Electric System (Electric Version)**
  - **System**: 24 V
  - **Battery (series/parallel)**: 4 x 12 V
  - **Standard working lights**: 8 Xenon lights
  - **Standard service lights**: 15 lights

#### Hydraulic System
- **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 l/min .. 2190 gpm
  - **Relief valve setting**: 310 bar ..., 4,495 psi
  - **Swing flow rate**: 2070 l/min @ 1500 rpm
  - **High pressure in line filters**: 200 microns
  - **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 six large swing-out vertical air-to-oil hydraulic coolers with temperature-regulated hydraulically driven fans.**

#### Automatic Centralised Lubrication
- **Automatic Centralised 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.). Replenishment of the containers is through the Wiggins connections on the service arm.**

#### Service Capacities
- **Service Capacities**
  - **Hydraulic oil tank**: 83500 ltr 2.205 U.S. gal
  - **Hydraulic system**: 11500 ltr 3.040 U.S. gal
  - **Fuel**: 13500 ltr 3.564 U.S. gal
  - **Engine coolant**: 2x 475 ltr 2x 125 U.S. gal
  - **Engine oil**: 2x 290 ltr 2x 77 U.S. gal
  - **Centinel engine oil make up tank**: 2x 670 ltr 2x 180 U.S. gal

### LUBRICATION
- **Automatic Centralised Lubrication**
  - **Type**: 2 x Squirrel-cage induction motor
  - **Power output**: 2x 1450 kW 2010 HP @ 1800 rpm
  - **Voltage**: 6600 V*
  - **Amperage (approximate)**: 2 x 155 A
  - **Frequency (standard)**: 2070 l/min @ 1500 rpm

*Optional lighting upon request

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*xOptional lighting upon request*

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*Other voltages available on request*
The large welded steel safety cab is mounted with 18 viscous damping pads and sound insulated. It is equipped with automatic climate control and is pressurised. The operator’s seat is fully adjustable, air suspended, electrically heated and has a lap seat belt. There is a trainer’s 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 speed and 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. 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 the cab side windows.

Cab engineering standards are;
- ISO 3449 Falling Objects Protection Structure
- ISO 6396 Noise in operator’s cab is 76dB(A)
- ISO 2631-1/5349-1 Vibration and Shock
- Air conditioner ............................................. 10kW 34120 Btu
- Heater/Demister (Diesel version) ......................... 10kW 34120 Btu
- Heater/Demister (Electric version) ....................... 12kW 40940 Btu

**HEALTH MONITORING 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 for major malfunctions the engines are also shut down. 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 11,500 mm 37’9” boom, 5500 mm 18’0” stick, 38 m³ 50.0 yd³ backhoe bucket, operator, lubricant, coolant, full fuel tank and standard equipment.

<table>
<thead>
<tr>
<th>Shoe Width</th>
<th>Operating Weight</th>
<th>Ground Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500 mm 59”</td>
<td>710 t 1,565,000 lb</td>
<td>26.7 N/cm² 38.7 psi</td>
</tr>
<tr>
<td>1900 mm 75”</td>
<td>720 t 1,590,000 lb</td>
<td>21.4 N/cm² 31.0 psi</td>
</tr>
</tbody>
</table>

**PC 8000 Front Shovel:**
Operating weight including 8150 mm 26’9” boom, 5750 mm 18’9” stick, 42 m³ 55.0 yd³ shovel bucket, operator, lubricant, coolant, full fuel tank and standard equipment.

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<tbody>
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<td>26.3 N/cm² 38.1 psi</td>
</tr>
<tr>
<td>1900 mm 75”</td>
<td>710 t 1,565,000 lb</td>
<td>21.2 N/cm² 30.7 psi</td>
</tr>
</tbody>
</table>
### DIGGING FORCES

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Break-out force</td>
<td>2000 kN 449,500 lb</td>
<td></td>
</tr>
<tr>
<td>Tear-out force</td>
<td>1800 kN 404,600 lb</td>
<td></td>
</tr>
</tbody>
</table>

Maximum reach at ground level .......... 19900 mm 65'4"
Maximum digging depth ................. 8400 mm 27'7"

### BACKHOE BUCKET, STICK AND BOOM COMBINATION

<table>
<thead>
<tr>
<th>Bucket Capacity</th>
<th>Width</th>
<th>Teeth</th>
<th>Weight</th>
<th>Boom Length</th>
<th>Stick Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAE Heaped 1 : 1</td>
<td></td>
<td></td>
<td></td>
<td>11500 mm 37'9&quot;</td>
<td>5500 mm 18'0&quot;</td>
</tr>
<tr>
<td>38 m³ 50 yd³</td>
<td>4830 mm</td>
<td>15'10&quot;</td>
<td>6</td>
<td>45.5 t 100,300 lb</td>
<td>Material weight to 1.8 t/m³ 3000 lb/yd³</td>
</tr>
<tr>
<td>42 m³ 55 yd³</td>
<td>4780 mm</td>
<td>15'8&quot;</td>
<td>6</td>
<td>40.3 t 88,900 lb</td>
<td>Material weight to 1.7 t/m³ 2900 lb/yd³</td>
</tr>
</tbody>
</table>

Alternative buckets/wear packages are available
DIGGING FORCES

<table>
<thead>
<tr>
<th>Force</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Break-out force</td>
<td>2320 kN</td>
<td>521,500 lb</td>
</tr>
<tr>
<td>Crowd force</td>
<td>2320 kN</td>
<td>521,500 lb</td>
</tr>
</tbody>
</table>

Level crowd at ground level: 5900 mm (19' 4"
Maximum dumping height: 13900 mm (45' 7"

SHOVEL BUCKET, STICK AND BOOM COMBINATION

<table>
<thead>
<tr>
<th>Bucket Capacity</th>
<th>Width</th>
<th>Teeth</th>
<th>Weight</th>
<th>Boom Length</th>
<th>Stick Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAE/CECE</td>
<td>Heaped 2:1</td>
<td>Heaped 1:1</td>
<td>5630 mm</td>
<td>8150 mm 26' 9&quot;</td>
<td>5750 mm 18' 9&quot;</td>
</tr>
<tr>
<td>42 m³ 55 yd³</td>
<td>48 m³ 63 yd³</td>
<td>6</td>
<td>67.2 t</td>
<td>148,000 lb</td>
<td></td>
</tr>
</tbody>
</table>

Alternative buckets/wear packages are available.
Hydraulic Mining Shovel will comprise:

**STANDARD EQUIPMENT**

**FRONT SHOVEL ATTACHMENT**
8.15 m 26'9" boom and 5.75 m 18'9" stick complete with cylinders. 42 m$^3$ 55 yd$^3$ (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$^3$ 50 yd$^3$ (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 structure and CARRIER SÜTRAK air-conditioning unit. Mounted on viscous pads. GRAMMER full 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 parsley 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.

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

Service point (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" trackshoes
- Extra or alternative, lighting
- Fire suppression system
- Electric drive
- Cable reel (Electric version)
- Service crane
- Low temperature package (incl. KIM hot start)
- Auxiliary diesel generator

**DIMENSIONS**

**BASIC MACHINE WITH COUNTERWEIGHT**

| A | 15000mm | 59" | I | 3550mm | 11'8" |
| B | 19000mm | 75" | J | 8780mm | 28'10" |
| C | 8150mm | 26'9" | K | 9500mm | 31'2" |
| C | 8550mm | 28'11" | L | 4550mm | 14'11" |
| D | 2830mm | 9'3" | L | 5530mm | 18'1" |
| E | 3970mm | 13'00" | M | 3750mm | 12'4" |
| F | 7945mm | 26'00" | N | 10000mm | 32'10" |
| G | 10515mm | 34'6" | O | 8410mm | 27'7" |
| H | 3470mm | 11'5" | O | 8710mm | 28'7" |

Ground Clearance: 1144mm 3'9"

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