KOMATSU

PC4000-6 Loading Shovel
PC4000-6 Backhoe

ENGINE POWER
1400 kW / 1875 HP @ 1800 rpm

OPERATING WEIGHT
388 – 399 ton / 855,500 – 879,800 lb

SHOVEL CAPACITY
22 m³ 29 yd³ SAE 2:1 heaped

BACKHOE CAPACITY
22 m³ 29 yd³ SAE 1:1 heaped

HYDRAULIC EXCAVATOR
Quality in Manufacturing
Commitment to “Quality and Reliability“

- Quality management ISO 9001
- Environmental management ISO 14001
- Occupational health and safety management system BS OHSAS 18001:2007
- High consistent quality through continuous investment in personnel, design and manufacturing systems and processes

Powerful Diesel Engine
Version 1 – Komatsu SDA16V160 (Tier 1)
Version 2 – Komatsu SDA16V160E-2 (Tier 2)
- Rated 1400 kW (1875 HP) at 1800 rpm
- Electronic engine management
- Low engine emission levels meet EPA regulations
- Time saving Engine Oil Management System; Centinel, Engine Reserve Oil Supply and Eliminator Oil Filter System

Reliability and Durability
Long life and low operating cost by design

- 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 of all engaging components reduce track wear
- Hardened track link pin bores
**Productivity**

Designed for more tons per hour
- Powerful digging forces
- Ease of bucket filling
- Proven attachment design
- All cylinders mounted in the shadow of the attachment for protection
- Various buckets and wear packages to suit all material densities and properties

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**Advanced Hydraulics**

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

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**Large Comfortable Cab**

Comfortable for the whole day
- Komatsu low noise cab on multiple viscous mounts for reduced noise and vibration
- Large volume cab with full height front window
- Comprehensive climate control with pressurised filtered air ventilation and air conditioning
- High specification multi-adjustable air suspension seat plus trainer seat
- Well elevated operator position giving good all round view
- Large wash wiper covers windshield area for excellent visibility

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**Easy and Safe 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
- Acknowledges EMESRT design philosophies

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**Matchable Machines**

150 to 240 U.S. ton TRUCKS

**Operating Weight**

- **Shovel**: 388-393 ton 855,500-866,600 lb
- **Backhoe**: 394-399 ton 868,800-879,800 lb

**Bucket Capacity**

- **Shovel**: 22 m³ 29 yd³
- **Backhoe**: 22 m³ 29 yd³
**PC4000-6 HYDRAULIC EXCAVATOR**

### SPECIFICATIONS

#### DIESEL DRIVE

**Version 1 – Tier 1 engine:**
- **Model:** Komatsu SDA16V160
- **Type:** 4-cycle, water-cooled, direct injection
- **Aspiration:** Turbocharged and aftercooled
- **Number of cylinders:** 16
- **Rated power:** 1400 kW @ 1800 rpm [SAE J1995]
- **Governor:** All-speed, electronic

**Version 2 – Tier 2 engine:**
- **Model:** Komatsu SDA16V160E-2
- **Type:** 4-cycle, water-cooled, direct injection
- **Aspiration:** Turbocharged and aftercooled
- **Number of cylinders:** 16
- **Rated power:** 1400 kW @ 1800 rpm [SAE J1995]
- **Governor:** All-speed, electronic

The integrated engine oil and filter system combining the oil stabilising 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.

#### ELECTRIC SYSTEM (Diesel Version)

- **System:** 24 V
- **Batteries (series/parallel):** 2 x 2 x 12 V
- **Alternator:** 260 A
- **Standard working lights:** 14 LED lights
- **Standard service lights:** throughout the platform

#### ELECTRIC DRIVE

- **Type:** Squirrel cage induction motor
- **Power Output:** 1350 kW
- **Voltage:** 6000 – 7200 V*
- **Amperage (approximate):** 145 A - 120 A
- **Start-up:** Soft start
- **Frequency standard:** 60 Hz @ 1800 rpm
- **Frequency option:** 50 Hz @ 1500 rpm
- * Other voltages available on request

#### ELECTRIC SYSTEM (Electric Version)

- **System:** 24 V
- **Batteries (series/parallel):** 3 x 2 x 12 V
- **Alternator:** 260 A
- **Standard working lights:** 14 LED lights
- **Standard service lights:** throughout the platform

#### UNDERCARRIAGE

- **Track adjustment:** Automatic hydraulic type
- **Number of track shoes:** 49 each side
- **Number of top rollers:** 3 each side
- **Number of bottom rollers:** 7 each side

#### TRAVEL AND BRAKE SYSTEMS

- **Travel control:** 2 foot pedals
- **Gradeability:** Up to 50 %
- **Travel speed (maximum):** 2.1 km/h, 1.3 mph
- **Service brake:** Hydraulic brake
- **Parking brake:** Wet, multiple-disk

#### SWING SYSTEM

- **Hydraulic motors and drives:** 2
- **Swing brake, service:** Hydraulic brake
- **Swing brake, parking:** Wet, multiple-disc
- **Swing ring teeth:** External
- **Swing speed (maximum):** 4.0 rpm

#### HYDRAULIC SYSTEM

The power train consists of one main drives. One gearbox drives four identical pumps which draw hydraulic oil from an unpressurised hydraulic tank. Open circuit hydraulics provide maximum cooling and filtering efficiency.

- **Rated flow (total output):** 4.140 ltr/min / 1,096 gpm
- **Relief valve setting:** 310 bar / 4,495 psi
- **Swing flow rate:** 1.590 ltr/min / 420 gpm
- **High pressure in line filters:** 200 microns one per pump located at the valve blocks
- **Full flow return line filters (4 elements):** 10 microns at head of hydraulic tank
- **Case drain/bye-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 prioritises 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.

#### AUTOMATIC CENTRALISED LUBRICATION

Two hydraulically powered Lincoln single line automatic lubrication systems are provided as standard, complete with time and volume variable controls. The central lube grease system is supplied from a refillable 200 litre (53 gal.) barrel. A second, identical system supplies open gear lubricant to the swing ring teeth through a lube pinion. Replenishment of the containers is through the Wiggins connections on the service arm.

#### SERVICE CAPACITIES

- **Hydraulic oil tank:** 3,900 ltr / 1,030 U.S. gal
- **Hydraulic system:** 5,900 ltr / 1,559 U.S. gal
- **Fuel:** 6,400 ltr / 1,691 U.S. gal
- **Engine coolant:** 475 ltr / 125 U.S. gal
- **Engine oil:** 290 ltr / 77 U.S. gal
- **Reserve engine oil make up tank:** 460 ltr / 122 U.S. gal

#### ENVIRONMENT

- **Vibration levels**
  - Hand-lever (ISO 5349-1) ……….. lower than 2.5m/s²
  - Whole body vibration and shock (ISO 2631-1) .......... below 0.5m/s²

- **Contains fluorinated greenhouse gas HFC-134a (GWP 1430)**
  - PC 4000-6 D … Quantity of gas 5.0-9.5 kg, CO₂ equivalent 7.15-13,59t
  - PC 4000-6 E … Quantity of gas 7.4-11.9 kg, CO₂ equivalent 10.58-17,021
The large and comfortable cab is mounted on 18 viscous damping pads and sound insulated. The cab has automatic climate control and is pressurised. 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 seat belt. Low-effort joystick controls are electro-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 with AUX in 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 left hand window is an emergency exit. All windows are tinted parlour green. The front window is a 19mm thick impact resistant window. A walkway is mounted in front of cabin.

Major cab engineering standards are:
- ISO 3449 Falling Objects Protection Structure (FOPS)
- ISO 6396 Noise in operator’s cab is max. 75 dBA
- ISO 10263-4 Heating and air conditioning
  second heater or air conditioner as option

**KOMTRAX PLUS 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 coloured display. The integrated digital storage provides a full event history and trend data, which can be downloaded by laptop. Optionally available are W-LAN or Orbcmm satellite transmission (check for availability in your territory).

### OPERATING WEIGHTS (APPROXIMATE)

**PC 4000 Backhoe:**
Operating weight including 9.750 mm 32’0” boom, 4.500 mm 14’9” stick, 22 m³ (29 yd³) backhoe bucket, operator, lubricant, coolant, 1/3 fuel and standard equipment.

<table>
<thead>
<tr>
<th>Shoe Width</th>
<th>Operating Weight</th>
<th>Ground Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1200 mm 47”</td>
<td>394 t 868,800 lb</td>
<td>21,6 N/cm² 31.3 psi</td>
</tr>
<tr>
<td>1500 mm 59”</td>
<td>399 t 879,800 lb</td>
<td>17,5 N/cm² 25.4 psi</td>
</tr>
</tbody>
</table>

**PC 4000 Front Shovel:**
Operating weight including 7.150 mm 23’6” boom, 4.900 mm 16’1” stick, 22 m³ (29 yd³) shovel bucket, operator, lubricant, coolant, 1/3 fuel and standard equipment.

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</tr>
<tr>
<td>1500 mm 59”</td>
<td>393 t 866,600 lb</td>
<td>17,2 N/cm² 24.9 psi</td>
</tr>
</tbody>
</table>
PC4000-6 Hydraulic Excavator

Productivity-Features

Backhoe Attachment

<table>
<thead>
<tr>
<th>Bucket Capacity (Heaped 1:1)</th>
<th>Width</th>
<th>Teeth</th>
<th>Wear Package acc. abrasiveness</th>
<th>GET System</th>
<th>Max. Material Density (Loose)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAE cum</td>
<td>SAE cuyd</td>
<td>mm</td>
<td>foot/inch</td>
<td>qty</td>
<td></td>
</tr>
<tr>
<td>19.0</td>
<td>25.0</td>
<td>3.050</td>
<td>10'0”</td>
<td>5</td>
<td>heavy</td>
</tr>
<tr>
<td>22.0</td>
<td>29.0</td>
<td>3.790</td>
<td>12’5”</td>
<td>6</td>
<td>standard</td>
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Alternative buckets on request

*other systems on request

- **Boom length**: 9.750 mm (32’0”)
- **Stick length**: 4.500 mm (14’9”)
- **Break-out force (ISO)**: 1.239 kN (278,490 lb)
- **Tear-out force (ISO)**: 1.058 kN (237,810 lb)

Max. digging height: 15.000 mm (49’3”)
Max. dumping height: 9.700 mm (31’10”)
Max. digging depth: 8.000 mm (26’3”)
Max. digging reach: 17.500 mm (57’5”)
Max. digging reach at ground level: 16.650 mm (54’8”)

*other systems on request
## Hydraulic Excavator

### PC4000

#### Front Shovel Attachment

<table>
<thead>
<tr>
<th>Bucket Capacity (Heaped 1:2)</th>
<th>SAE cum</th>
<th>Width</th>
<th>Teeth</th>
<th>Wear Package acc. abrasiveness</th>
<th>GET System</th>
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<td>13'2&quot;</td>
<td>5</td>
<td>heavy</td>
<td>Hensley XS 390</td>
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<td>light</td>
<td>Hensley XS 390</td>
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**Alternative buckets on request**

*other systems on request*

| **Boom length** | 7.150 mm | 23'6" |
| **Stick length** | 4.900 mm | 16'1" |
| **Break-out force (ISO)** | 1.349 kN | 303,220 lb |
| **Crowd force (ISO)** | 1.330 kN | 298,950 lb |
| **Max. cutting height** | 17.400 mm | 57'1" |
| **Max. dumping height** | 12.000 mm | 39'4" |
| **Max. digging depth** | 2.900 mm | 9'6" |
| **Max. digging reach** | 15.100 mm | 49'6" |
| **Level crowd at ground level** | 5.700 mm | 18'8" |
| **Bucket opening width** | 2.650 mm | 8'8" |
HYDRAULIC MINING SHOVEL

FRONT SHOVEL ATTACHMENT
- 7.15 m 23’6” boom
- 4.9 m 16’1” stick
- Set of cylinders
- 22 m² (29 yd²) (SAE 2:1) shovel bucket incl. standard wear package with hammerless GET system

OR

BACKHOE ATTACHMENT
- 9.75 m 32’0” boom
- 4.5 m 14’9” stick
- Set of cylinders
- 22 m² (29 yd²) (SAE 1:1) bucket incl. standard wear package with hammerless GET system

CRAWLER UNDERCARRIAGE
- Heavy-duty shovel type undercarrage
- Centre carbody
- 2 heavy box-type track frames
- 7 bottom rollers and 3 top rollers each side
- 1200 mm 47” cast steel track shoes
- Hydraulic track adjustment and parking brake

SUPERSTRUCTURE
- Main frame mounted over an externally toothed swing circle carries the drive module
- Version 1 - Komatsu SDA16V160
  Tier 1 diesel engine
- Version 2 - Komatsu SDA16V160E-2
  Tier 2 certificated diesel engine
- Oil and fuel reservoirs
- Hydraulic components
- Counterweight

LIGHTING
- 14 LED high performance working lights
- Service lights throughout the platform incl. emergency egresses

OPERATOR CAB
- Enclosed steel cab mounted on viscous pads
- FOPS according ISO 3449
- Air-conditioning unit Suttrak
- Full suspension operator seat with belt
- Trainer seat with belt
- Controls ergonomic
- KOMTRAX Plus (Monitoring System)
- Joysticks are electro-hydraulic
- 1 large parallel windshield wash wiper
- AM-FM radio with MP3 ready CD player & aux port
- Internal and external sun blinds
- All windows tinted parasol green
- Impact resistant front window (19mm)
- Walkway in front of cab

LUBRICATION AND SERVICE
- LINCOLN central lubrication for basic machine and attachment and bucket
- 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 pipe covers
- Engine oil management package
- Service transfer oil pump
- Sidewalks and stairs are provided with skid-resistant plates
- Hand rails and steps on boom
- Tie off points on boom
- Engine emergency stop at ground level

ATTACHMENT/BUCKET
- Boom cylinder sliding guard
- Arm cylinder sliding guard
- Bucket cylinder sliding guard (BH)

UNDERCARRIAGE
- 1.500 mm 59” track shoes

OPTIONAL EQUIPMENT
- Hotstart temperature treatment for ambient temperature down to -50° C (diesel and electro drive), external power source not included
- Biodegradable hydraulic oil

CRAWLER UNDERCARRIAGE
- Heavy-duty shovel type undercarrage
- Centre carbody
- 2 heavy box-type track frames
- 7 bottom rollers and 3 top rollers each side
- 1200 mm 47” cast steel track shoes
- Hydraulic track adjustment and parking brake

POWER
- Electro drive various voltages
- Cable drum without cable
- Fire suppression system, Ansul (Agent LVS+Powder), diesel drive

COLD WEATHER
- Cold weather package down to -40° C (diesel and electro drive)
- Arctic weather package down to -50° C (diesel and electro drive)
- Hotstart temperature treatment for ambient temperature down to -50° C (diesel and electro drive), external power source not included
- Camera system acc. ISO5006
- Additional LED working lights
- Rotafire warning lights
- Additional cab A/C
- Additional independent cab heater
- Special painting

SPECIFIC HYDRAULIC OIL
- Biodegradable hydraulic oil

MISCELLANEOUS
- Boom cylinder sliding guard
- Arm cylinder sliding guard
- Bucket cylinder sliding guard (BH)

BASIC MACHINE WITH COUNTERWEIGHT

| A | 1200 mm 3’11” | J | 3085 mm 10’2” |
| B | 1500 mm 4’11” | K | 7600 mm 24’11” |
| C | 6750 mm 22’2” | L | 8300 mm 27’3” |
| C | 7050 mm 23’2” | M | 3896 mm 12’9” |
| D | 2480 mm 8’2” | M | 4840 mm 15’11” |
| E | 930 mm 3’11” | N | 3503 mm 11’6” |
| F | 3380 mm 11’1” | O | 8700 mm 28’7” |
| G | 6700 mm 22’0” | P | 6095 mm 20’0” |
| H | 8842 mm 29’0” | P | 6500 mm 21’4” |
| I | 3017 mm 9’11” | | |

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