KOMATSU

PC4000-11 Loading Shovel
PC4000-11 Backhoe

ENGINE POWER
1400 kW / 1875 HP @ 1800 rpm

OPERATING WEIGHT
393 – 409 ton / 866,400 – 901,700 lb

SHOVEL CAPACITY
22 m³ 29 yd³ SAE 2:1 heaped

BACKHOE CAPACITY
22 m³ 29 yd³ SAE 1:1 heaped

PC
4000

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
- Energy DIN EN ISO 50001
- High consistent quality through continuous investments in personnel, design and manufacturing systems and processes

Powerful Diesel Engine

Version 1:
Komatsu SDA16V160E-2 Tier 2 engine
- Low engine emission level Tier 2 certified

Version 2:
Komatsu SDA16V160E-3 Tier 4 engine
- Low engine emission level Tier 4 certified
- SCR system (selective catalytic reduction)
- Rated power: 1400 kW at 1800 rpm
- Electronic engine management
- Time saving Engine Oil Management System; Reserve Oil Supply and Eliminator Oil Filter System
- Higher fuel efficiency
- Extended service intervals

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
Reliability and Durability
Long life and low operating cost by design
- Robust structural design developed from field experience and finite element analysis

Access and Egress
- 45° stairway design
- 3 emergency egresses
  - Cab and machinery house
    (two pieces flip down solid anti slip steel ladder)
  - Machinery house escape
- Illuminated accesses and egresses

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

Advanced Hydraulics
Extended reliability and precise control
- Comprehensive monitored filtration
- Simple open circuit hydraulic system with high efficiency swing out oil coolers
- Parallel kinematic & float action

MATCHES
150 to 240 U.S. ton TRUCKS

OPERATING WEIGHT
Shovel 393-403 ton
866,400-888,500 lb
Backhoe 399-409 ton
879,600-901,700 lb

BUCKET CAPACITY
Shovel 22 m³ 29 yd³
Backhoe 22 m³ 29 yd³
**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
- KomVision system provides 360° bird’s-eye view of the machine and the surrounding

**Komtrax Plus**

- Remote monitoring system with access to specific machine data
- Preventive maintenance scheduling
- Reporting information
- Data transfer via Satellite (Orbcom or Iridium)

**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
- 1st stage fuel filter, separated from machinery house (easy to reach)
- Enclosed, walk-in machinery house with partition wall separating engine from pump area
- Automatic central lubrication, refillable via service arm
- Ground-level access to hydraulically powered swing down service arm with Wiggins connections
- Acknowledges EMESRT design philosophies
- Improved lean electrical system (redundant CANBUS); eliminates connection points for an easy trouble shooting
- Spacious pump compartment with head height clearance
### DIESEL DRIVE

<table>
<thead>
<tr>
<th>Version 1: Tier 2 engine</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Komatsu SDA16V160E-2</td>
</tr>
<tr>
<td>Type</td>
<td>4-cycle, water-cooled, direct injection</td>
</tr>
<tr>
<td>Aspiration</td>
<td>Turbocharged and aftercooled</td>
</tr>
<tr>
<td>Number of cylinders</td>
<td>16</td>
</tr>
<tr>
<td>Rated power</td>
<td>1400 kW @ 1800 rpm (SAE J1995)</td>
</tr>
<tr>
<td>Governor</td>
<td>All-speed, electronic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Version 2: Tier 4 engine</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Komatsu SDA16V160E-3</td>
</tr>
<tr>
<td>Type</td>
<td>4-cycle, water-cooled, direct injection</td>
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<tr>
<td>Aspiration</td>
<td>Turbocharged and aftercooled</td>
</tr>
<tr>
<td>Number of cylinders</td>
<td>16</td>
</tr>
<tr>
<td>Rated power</td>
<td>1400 kW @ 1800 rpm (SAE J1995)</td>
</tr>
<tr>
<td>Governor</td>
<td>All-speed, electronic</td>
</tr>
</tbody>
</table>

The Engine meets EPA T4 final low emissions level by using Selective Catalytic Reduction and High Pressure Common Rail Injection System.

The integrated engine oil and filter system combining the oil stabilising systems, Reserve and Eliminator oil filter extends the oil change interval up to 1,000 hours. 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 incl. emergency egresses and stairways

### 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

- Gradeability: Up to 50%
- Travel speed (maximum): 2.1 km/h / 1.3 mph
- Service brake: Hydraulically operated
- Parking brake: Multiple-disc

### SWING SYSTEM

- Hydraulic motors and drives: 2
- Swing brake, service: Hydraulically operated
- Swing brake, parking: Multiple-disc
- Swing ring teeth: External
- Swing speed (maximum): 4.0 rpm

### HYDRAULIC SYSTEM

The power train consists of one main drive. 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
- Full flow return line filters: 10 microns
- Swing flow rate: 200 microns one per pump located at the valve blocks

### 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: 6,910 ltr / 1,826 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
- Lubrication system (total): 400 ltr / 106 U.S. gal
- DEF (diesel exhaust fluid) tank: 587 ltr / 155 U.S. gal (only Tier 4 engine)

### 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 4000-11 D Quantity of gas 5.0-9.5 kg, CO₂ equivalent 7.15-13.59t
PC4000 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>399 t 879,800 lb</td>
<td>21.9 N/cm² 31.8 psi</td>
</tr>
<tr>
<td>1500 mm 59”</td>
<td>404 t 890,700 lb</td>
<td>17.7 N/cm² 25.7 psi</td>
</tr>
</tbody>
</table>

Tier 2 Version:

<table>
<thead>
<tr>
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<th>Operating Weight</th>
<th>Ground Pressure</th>
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</thead>
<tbody>
<tr>
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<td>399 t 879,800 lb</td>
<td>21.9 N/cm² 31.8 psi</td>
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<tr>
<td>1500 mm 59”</td>
<td>404 t 890,700 lb</td>
<td>17.7 N/cm² 25.7 psi</td>
</tr>
</tbody>
</table>

Tier 4 Version:

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<thead>
<tr>
<th>Shoe Width</th>
<th>Operating Weight</th>
<th>Ground Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1200 mm 47”</td>
<td>404 t 890,700 lb</td>
<td>22.2 N/cm² 32.2 psi</td>
</tr>
<tr>
<td>1500 mm 59”</td>
<td>409 t 901,700 lb</td>
<td>17.9 N/cm² 26 psi</td>
</tr>
</tbody>
</table>

PC4000 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.

<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>393 t 866,400 lb</td>
<td>21.5 N/cm² 31.2 psi</td>
</tr>
<tr>
<td>1500 mm 59”</td>
<td>398 t 877,400 lb</td>
<td>17.5 N/cm² 25.4 psi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shoe Width</th>
<th>Operating Weight</th>
<th>Ground Pressure</th>
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<tbody>
<tr>
<td>1200 mm 47”</td>
<td>398 t 877,400 lb</td>
<td>21.8 N/cm² 31.6 psi</td>
</tr>
<tr>
<td>1500 mm 59”</td>
<td>403 t 888,500 lb</td>
<td>17.7 N/cm² 25.7 psi</td>
</tr>
</tbody>
</table>

Diesel Drive
1 Cab
2 Diesel Engines
3 Hydraulic Pumps
4 Hydraulik Tank
5 Hydraulic Coolers
6 Fuel Tank
7 Valve Blocks
8 Swing Motors
9 Counterweight
10 Emergency swing ladder egress
11 Emergency access out of machinery house
12 See-through Cat Walk
## HYDRAULIC EXCAVATOR

### PRODUCTIVITY-FEATURES

#### BACKHOE ATTACHMENT

<table>
<thead>
<tr>
<th>Bucket Capacity</th>
<th>Width</th>
<th>Teeth</th>
<th>Wear Package</th>
<th>GET System</th>
<th>Max. Material Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heaped 1:1 SAE</td>
<td></td>
<td></td>
<td>acc. abrasiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cum</td>
<td>cuyd</td>
<td>mm</td>
<td>foot/inch</td>
<td>qty</td>
<td>heavy</td>
</tr>
<tr>
<td>19.0</td>
<td>25.0</td>
<td>3.050</td>
<td>10'0&quot;</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>22.0</td>
<td>29.0</td>
<td>3.790</td>
<td>12'5&quot;</td>
<td>6</td>
<td>standard</td>
</tr>
<tr>
<td>23.0</td>
<td>30.0</td>
<td>3.790</td>
<td>12'5&quot;</td>
<td>6</td>
<td>standard</td>
</tr>
</tbody>
</table>

Alternative buckets on request  
*other systems on request

<table>
<thead>
<tr>
<th>Boom length</th>
<th>9.750 mm</th>
<th>32'0&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stick length</td>
<td>4.500 mm</td>
<td>14'9&quot;</td>
</tr>
<tr>
<td>Break-out force (ISO)</td>
<td>1.239 kN</td>
<td>278,490 lb</td>
</tr>
<tr>
<td>Tear-out force (ISO)</td>
<td>1.058 kN</td>
<td>237,810 lb</td>
</tr>
</tbody>
</table>

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"
# FRONT SHOVEL ATTACHMENT

## Bucket Capacity

<table>
<thead>
<tr>
<th>Bucket Capacity (Heaped 1:2)</th>
<th>SAE</th>
<th>Width</th>
<th>Teeth</th>
<th>Wear Package</th>
<th>GET System</th>
<th>Max. Material Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>cum</td>
<td>cuyd</td>
<td>mm</td>
<td>foot/inch</td>
<td>qty</td>
<td>acc. abrasiveness</td>
<td></td>
</tr>
<tr>
<td>19.0</td>
<td>25.0</td>
<td>4.020</td>
<td>13'2&quot;</td>
<td>5</td>
<td>heavy</td>
<td>Hensley XS 390 *</td>
</tr>
<tr>
<td>22.0</td>
<td>29.0</td>
<td>4.020</td>
<td>13'2&quot;</td>
<td>5</td>
<td>standard</td>
<td>Hensley XS 390 *</td>
</tr>
<tr>
<td>23.0</td>
<td>30.0</td>
<td>4.020</td>
<td>13'2&quot;</td>
<td>5</td>
<td>standard</td>
<td>Hensley XS 390 *</td>
</tr>
<tr>
<td>24.0</td>
<td>31.5</td>
<td>4.020</td>
<td>13'2&quot;</td>
<td>5</td>
<td>light</td>
<td>Hensley XS 390 *</td>
</tr>
</tbody>
</table>

*Alternative buckets on request

*other systems on request

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| **PC4000**
| **HYDRAULIC EXCAVATOR**

- **Front Shovel Attachment**
- **Bucket Capacity:**
  - Cum: 19.0, 22.0, 23.0, 24.0
  - Cubic Yards: 25.0, 29.0, 30.0, 31.5
  - Width: 4.020 mm (13'2")
  - Teeth: 5
  - Wear Package: Heavy, Standard, Light
  - GET System: Hensley XS 390 *
  - Max. Material Density (Loose):
    - t/cum: 2.1, 1.8, 1.7, 1.6
    - lb/cu.yd: 3,400, 3,000, 2,900, 2,700

- **Dimensions:**
  - Maximum dumping height: 12.000 mm (3'11'')
  - Maximum digging depth: 2.900 mm (9'6'')
  - Level crowd at ground level: 5.700 mm (18'8'')
  - Bucket opening width: 2.650 mm (8'8'')

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*Other systems on request*
STANDARD AND OPTIONAL EQUIPMENT

FRONT SHOVEL ATTACHMENT
- 7.15 m 23'6" boom, 4.9 m 16'1" stick
- 22 m³ (29 yd³) (SAE 2.1) shovel bucket incl. standard wear package with
- Hammerless GET system
- Alternative buckets and GETs
- Boom cylinder sliding guard
- Stick cylinder sliding guard

BACKHOE ATTACHMENT
- 9.75 m 32'0" boom, 4.5 m 14'9" stick
- 22 m³ (29 yd³) (SAE 1.1) shovel bucket incl. standard wear package with
- Hammerless GET system
- Alternative buckets and GETs
- Buckets cylinder sliding guard

CRAWLER UNDERCARRIAGE
- Heavy-duty shovel type undercarriage
- 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
- Drive gear box protection
- Travel motor protection

SUPERSTRUCTURE
- Main frame mounted over an externally toothed swing circle carries the drive module
- Diesel Engine:
  - Version 1: Komatsu SDA16V160E-2 Tier 2
  - Version 2: Komatsu SDA16V160E-3 Tier 4
- Electric drive various voltages
- Cable drum without cable

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

OPERATOR CAB
- Enclosed steel cab mounted on viscous pads
- FOPS according ISO 10262
- Air-conditioning unit Sutrak
- Full suspension operator seat with belt
- Controls ergonomic
- KOMTRAX Plus (Monitoring System)
- Joysticks are electro-hydraulic
- 1 large parallel windshield wiper
- AM-FM radio with MP3 ready CD player and AUX in
- Internal and external sun blinds
- Impact resistant front window (19mm)
- All windows tinted parsol green
- Walkway around the cab
- Additional cab A/C
- Additional cab heater

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 electric drive), external power source not included

SERVICE AND LUBRICATION
- LINCOLN central lubrication for basic machine, 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
- Service transfer oil pump
- Engine oil management package (Centinel, Reserve & Eliminator systems)
- Service Monitor (incl. all relevant manuals)

SAFETY FEATURES
Access and egress system
- 45° stairway design
- Hydraulically operated (two switches)
- Equipped with hand rails up to cab
- All steps with anti-slip edge
- Illuminated system

Emergency egress system
- Two pieces flip down solid anti-slip steel ladder
- Easy release with foot lever
- One system on cab site (illuminated)
- One system on opposite site (illuminated)
- One machinery house escape system (ladder + hatch)
- Acoustic travel alarm
- Electric air horn
- Engine turbo and exhaust pipe covers
- Engine emergency stop at ground level
- Camera system acc. ISO5006
- Sidewalks and stairs are provided with skid-resistant plates
- Hand rails and steps on boom;
  Tie off points on boom

Other Equipment
- Fire suppression system, Ansul
  (Agent LVS+Powder), diesel drive
- Special painting
- Biodegradable hydraulic oil

Further equipment on request
- Standard Equipment
- Optional Equipment

DIMENSIONS

BASIC MACHINE WITH COUNTERWEIGHT

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1200 mm 3'11&quot;</td>
<td>J 3085 mm 10'2&quot;</td>
</tr>
<tr>
<td>B</td>
<td>1500 mm 4'11&quot;</td>
<td>K 8670 mm 28'7&quot;</td>
</tr>
<tr>
<td>C_a</td>
<td>6750 mm 22'2&quot;</td>
<td>L 7600 mm 24'11&quot;</td>
</tr>
<tr>
<td>C_b</td>
<td>7050 mm 23'2&quot;</td>
<td>M 8310 mm 27'3&quot;</td>
</tr>
<tr>
<td>D</td>
<td>2480 mm 8'2&quot;</td>
<td>N_a 4032 mm 13'3&quot;</td>
</tr>
<tr>
<td>E</td>
<td>930 mm 3'11&quot;</td>
<td>N_b 4882 mm 15'11&quot;</td>
</tr>
<tr>
<td>F</td>
<td>3380 mm 11'1&quot;</td>
<td>O 3505 mm 11'6&quot;</td>
</tr>
<tr>
<td>G</td>
<td>6700 mm 22'0&quot;</td>
<td>P 8700 mm 29'0&quot;</td>
</tr>
<tr>
<td>H</td>
<td>8842 mm 29'0&quot;</td>
<td>Q 6095 mm 25'2&quot;</td>
</tr>
<tr>
<td>I</td>
<td>3020 mm 9'11&quot;</td>
<td>Q_a 6500 mm 21'4&quot;</td>
</tr>
</tbody>
</table>

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