

KOMATSU

PC7000-11

Loading Shovel & Backhoe

Australia & New Zealand Specifications

HYDRAULIC EXCAVATOR



PC7000-11

ENGINE POWER

2x1250 kW / 1675 HP
@ 1800 rpm

OPERATING WEIGHT

676 – 694 tonnes /
1,490,600 – 1,530,300 lb

SHOVEL CAPACITY

36 m³ 47 yd³ SAE 2:1 heaped

BACKHOE CAPACITY

36 m³ 47 yd³ SAE 1:1 heaped

WALK-AROUND

Productivity on demand

POWERFUL & ENVIRONMENTAL FRIENDLY

- Strong 2500kW@1800rpm with immense digging forces to get your job done
- Fuel efficient high performance 2x50 litre Komatsu SSDA16V159E-2 engines that meet the low engine emission level Tier2
- Various high productivity bucket options available to suit all material densities and properties

MAXIMISED EFFICIENCY

- Large fuel tank for 24hrs non-stop operation
- Optimised Swing Motors to reduce cycle time
- Long lasting, compact and electronically controlled Komatsu double pumps to guarantee efficient oil flow
- Advanced hydraulics system with monitored fine filtration to prevent contamination within the system
- "PLM ready/integrated" option available to speed up PLM installation time and reduce costs

TOUGH & RELIABLE

- Robust undercarriage design to suit toughest mining applications
- Proven steel structure and attachment design developed from field experience and finite element analysis for long lasting machine life operation
- Simplified System (SFS) to improve electronic reliability and ease maintenance
- Service friendly machine layout to fasten the conduct of a safe maintenance

FIRST CLASS COMFORT

- Generous designed, damped and sound insulated cabin with huge windows, a comfortable operator seat and several amenities to make operator's workplace pleasant
- Latest KomtraxPlus version with to the second precise machine health data, reporting functions and various download/transfer options

SAFETY FIRST

- 45° stairway access design and 3 emergency egress options to ensure a safe descent of all personnel in case of emergency
- 3-Camera-System on board for better all-around sight, KomVision 360° Bird-Eye-View Camera System optionally available





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@ 1800 rpm

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36 m³ 47 yd³ SAE 2:1 heaped

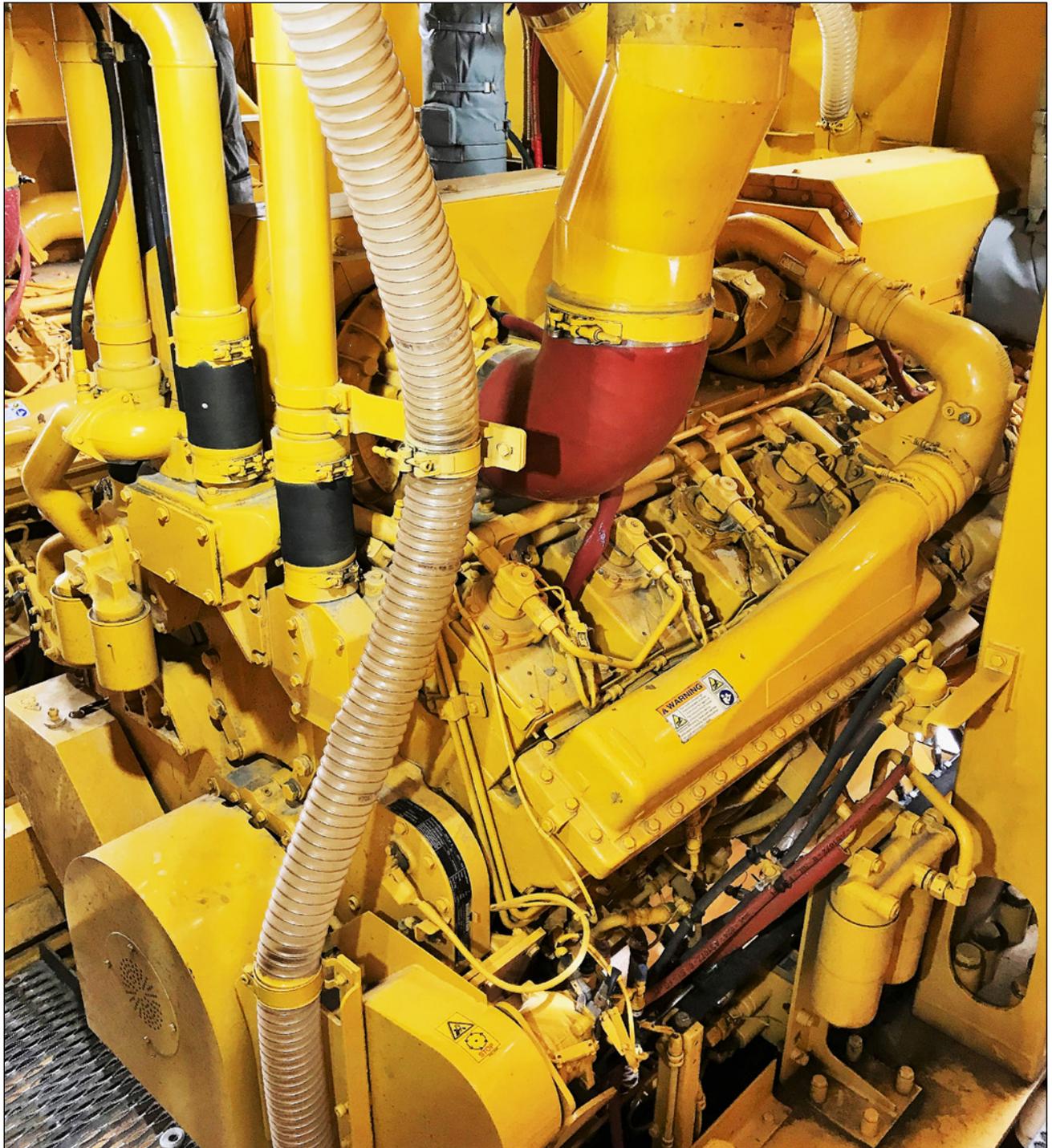
BACKHOE CAPACITY

36 m³ 47 yd³ SAE 1:1 heaped

POWERFUL & ENVIRONMENTAL FRIENDLY

High performance Komatsu engine

Enjoy the power of two SSDA16V159E-2 engines with a rated power of 2x1250kW @ 1800rpm. The engine management is controlled electronically and certified for low engine emission level Tier2. The engines come with a time saving Engine Oil Management System, an Engine Reserve Oil Supply and an Eliminator oil filter system.



PG7000-11



Market leading digging forces

Experience the immense crowd/tier-out and breakout forces to loosen and load even difficult material. Benefit from the proven attachment design to work under harshest conditions and get your job easily done.

Various large buckets

Choose from a range of various buckets and wear package options. Work together with the Komatsu Application team to optimise your bucket.



MAXIMISED EFFICIENCY

PG70000-11





Compact and reliable Komatsu double pumps

With a max. working pressure of 310 bar, 6 identical Komatsu swash plate double pumps (Type PV375+375) delivering a total of 6210 l/min. Supplementary pumps are end-mounted.

The pumps are field proven and satisfy of long lifetime, reduced hydraulic working temperature to improve machine component life and smooth operation.

Optimized swing motors

With variable swing motors Komatsu achieves quick cycle times.

The oil distribution (Qmax to Qmin) within the system is optimised for your "swing and lift" movements.

The system works automatically and is electronically controlled.

The optimised swing motors not only have an impact on the swing speed of the machine but improves oil flow into the attachment leading to a quicker achieved clearance height.



TOUGH & RELIABLE

Durable and robust steel structure design

Komatsu's hydraulic mining excavators are manufactured and designed in accordance with the highest quality, environmental and health and safety standards. Superstructure, attachment and undercarriage are welded in the Duesseldorf factory from the scratch and have proven an excellent steel structure integrity in the field. All larger Komatsu mining excavators have large diameter rollers, idlers and sprockets to withstand severest ground conditions. In addition a large surface area and extensive precision hardening of all engaging components reduce track wear. Also track link pin bores are hardened.



PG7000-11



Source: PC4000-11. System on PC7000-11 might look slightly different.

Simplified electro-hydraulic system to increase reliability and serviceability

The Simplified System (SFS) replaces the former X2 switch box design and sits in the switch cabinet underneath the operator's cabin. It means a radical reduction of controllers, relays, wiring and circuit breakers to reduce electronic downtime which increases MTTR. Improved Service Monitor functions help to carry out the commissioning and maintenance quickly and effortlessly.

55% less controllers
59% less relays
32% less circuit breaker
all integrated in **ONE** spot

FIRST-CLASS COMFORT

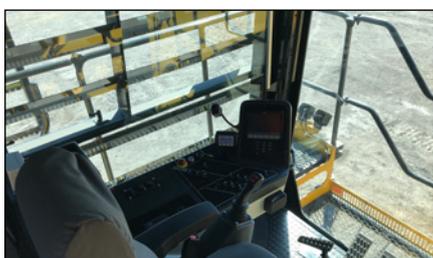


High-quality interior and focus on operator comfort

The large and comfortable cab is mounted on 18 viscous damping pads and is sound insulated. The cabin has automatic climate control and is pressurised. The operator seat is air suspended, electrically heated and has a two-point seatbelt offering multiple adjustments. The passenger seat is also equipped with a seat belt. Low-effort joystick controls are electrohydraulic with foot pedals for front shovel clam, crawler and swing brake. All windows are tinted parsol green safety glass with external steel louvers. The cab has a special penetration proof front window (acc. DIN EN1063, resistance classification BR2-S) to increase the safety level of the operator.

KomtraxPlus 2 for quick machine health monitoring

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 Wi-Fi or Orbcmm satellite transmission (check for availability in your territory). KomtraxPlus 2 upgrades the market leading KomtraxPlus system to second by second sample rates to the equipment care website. Furthermore improved Service Monitor functions decrease trouble shooting time.



SAFETY FIRST

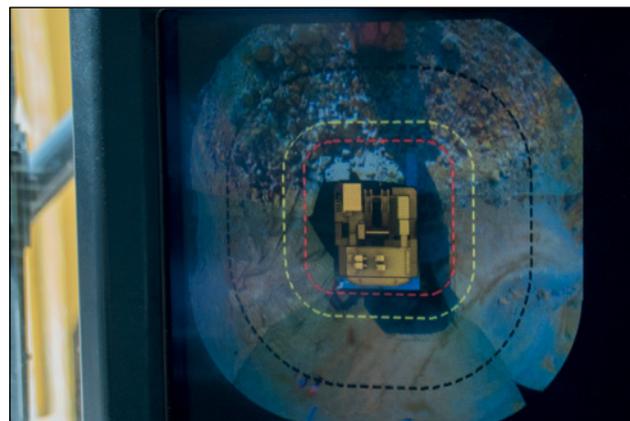


Safe machine access and egress

With a generous, safe 45° access ladder from ground to cabin and a service oriented machine layout the PC7000 incorporates the latest Komatsu safety updates. The design is influenced by the industry leading EMESRT recommendations – incl. 3 advanced emergency egress possibilities with a 360° track clearance. Numerous working and service LED lights will give your personnel safe operation on and around the machine.

Your environment always in view

With a 3-camera / 3-monitor system as a standard you immediately can overlook your rear machine working environment. The 360 birds-eye-view camera system “Komvision” is a standard fit on the PC7000-11. It not only allows you to overlook your rear machine working environment. It empowers you as well to have your whole operation surrounding within one glance – wrapped in one giant screen.



SPECIFICATIONS



DIESEL DRIVE

Tier 2 engine:
 Model.....2x Komatsu SSDA16V159E-2
 Type.....4-cycle, water-cooled, direct injection
 Aspiration.....Turbocharged and aftercooled
 Number of cylinders.....16
 Rated power.....2 x 1250 kW 1875 HP @ 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).....8 x 12 V
 Alternator.....2 x 140 A
 Standard working lights.....16 LED lights
 Standard service lights throughout the platform including emergency egresses and stairways.



UNDERCARRIAGE

Undercarriage consists of one centre carbody and two track frames, each side attached by high torque bolts.
 Centre frame.....H-type
 Track frame.....Steel box-section



CRAWLER ASSEMBLY

Track adjustment.....Automatic hydraulic type
 Number of track shoes.....48 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 1.55 mph
 Service brake.....Hydraulic brake
 Parking brake.....Multiple-disc



SWING SYSTEM

Hydraulic motors and drives.....3
 Swing brake, service.....Hydraulic brake
 Swing brake, parking.....Multiple-disc
 Swing ring teeth..... External
 Swing speed (optimised to 90° swing).....3.1 rpm



ELECTRIC SYSTEM (Electric Version)

System.....24V
 Batteries (series/parallel).....4 x 12 V
 Battery Charger.....3 x 100 A
 Standard working lights 16 LED lights
 Standard service lights throughout the platform including emergency egresses and stairways.



HYDRAULIC SYSTEM

The power train consists of two main drives. Each of the two gearboxes drives three identical pumps which draw hydraulic oil from an unpressurised hydraulic tank. Open circuit hydraulics provide maximum cooling and filtering efficiency.
 Rated flow (total output).....6.210 ltr/min 1,640 gpm
 Relief valve setting.....310 bar / 4,495 psi
 Swing flow rate.....1.035 ltr/min / 273 gpm
 High pressure in line filters.....200 microns one per pump located at the valve blocks
 Full flow return line filters.....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 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

Three hydraulically powered Lincoln single line automatic lubrication systems are provided as standard, complete with time and volume variable controls. The two central lubrication circuits and open gear grease circuit are supplied by identical pump assemblies from refillable containers which have a capacity of 1x 600 and 1x 300 litres (total 238 gal). Replenishment of the containers is through the Wiggins connections on the service arm.



SERVICE CAPACITIES

Hydraulic oil tank.....4.750 ltr / 1,255 U.S. gal
 Hydraulic system.....9.500 ltr / 2,510 U.S. gal
 Fuel.....13.033 ltr / 3,443 U.S. gal
 Engine Coolant.....2 x 440 ltr / 116 U.S. gal
 Engine Oil.....2 x 236 ltr / 62 U.S. gal
 Reserve engine oil make up tank.....2 x 665 ltr / 176 U.S. gal
 Lubrication system (total) 900 ltr / 238 U.S. gal



COMFORT AND 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)
 PC7000-11 D Quantity of gas 5.5-10,0 kg, CO2 equivalent 7.86-14.30t
 PC7000-6 E Quantity of gas 7.9-12,4 kg, CO2 equivalent 11.29-17.73t



OPERATOR CAB

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 electrohydraulic 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 parsol green. The cab is equipped with a special penetration proof front window (acc. DIN EN 1063, resistance classification BR2-S) to increase the safety level of the operator. A walkway is mounted around the cab.

Major cab engineering standards are:

- ISO 10262 Falling Objects Protection Structure (FOPS)
- ISO 6396 Noise in operator's cab in max. 75 dB(A)
- ISO 102636-4 Heating and air conditioning second heater or air conditioner as option.

second heater or air conditioner as option



KOMTRAX PLUS 2 HEALTH MONITORING SYSTEM

KOMTRAX Plus 2 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 Wi-Fi or Orbcmm satellite transmission (check for availability in your territory).



OPERATING WEIGHTS (APPROXIMATELY)

PC7000 Backhoe:

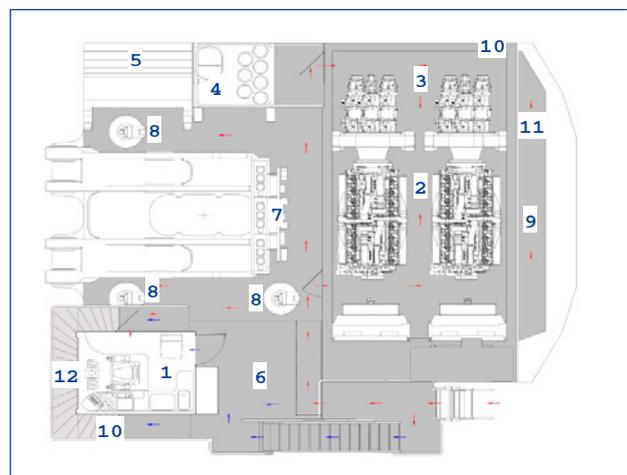
Operating weight including 11.000 mm 36'1" boom, 5.100 mm 16'9" stick, 36 m³ (47 yd³) backhoe bucket, operator, lubricant, coolant, 1/3 fuel and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1500 mm 59"	682 t 671,090 lb	25.3 N/cm ² 36.6 psi
1900 mm 75"	692 t 680,930 lb	20.3 N/cm ² 29.4 psi

PC7000 Front Shovel:

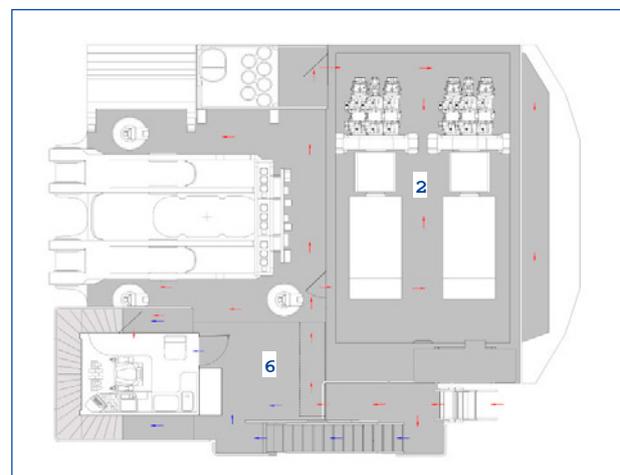
Operating weight including 8.000 mm 26'3" boom, 5.500 mm 18'1" stick, 36 m³ (47 yd³) shovel bucket, operator, lubricant, coolant, 1/3 fuel and standard equipment.

Shoe Width	Operating Weight	Ground Pressure
1500 mm 59"	673 t 662,230 lb	25.0 N/cm ² 36.2 psi
1900 mm 75"	683 t 672,070 lb	20.0 N/cm ² 29.0 psi



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



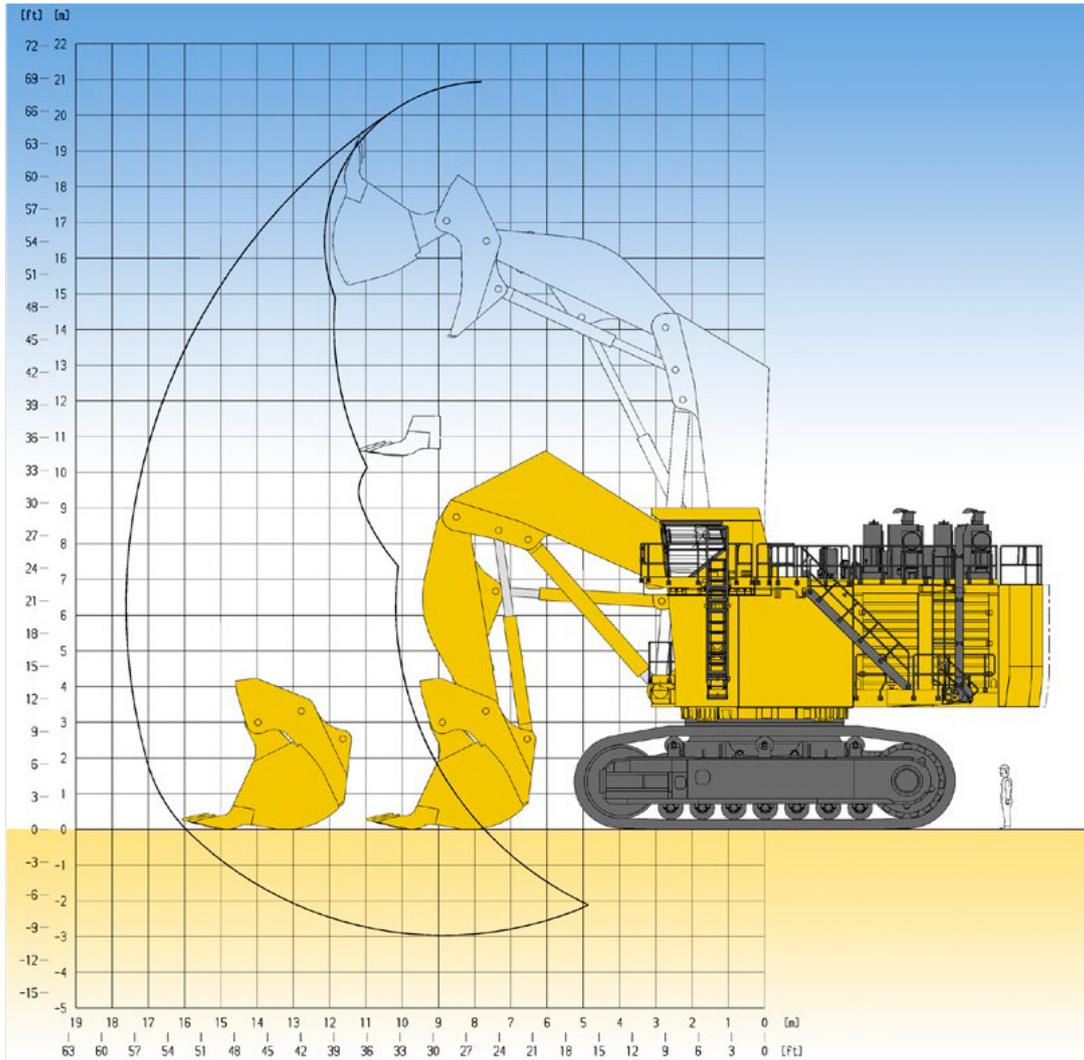
Variation for Electric DriveVersion

- 2 Electric Motors
- 6 High Voltage Electric



PRODUCTIVITY FEATURES

FRONT SHOVEL ATTACHMENT



FRONT SHOVEL ATTACHMENT

Boom length 8,000 mm (26'3")
 Stick length 5,500 mm (18'1")
 Break-out force (ISO) 2,086 kN (468,870 lb)
 Crowd force (ISO) 2,147 kN (482,580 lb)

Max. cutting height 20,940 mm (68'8")
 Max. dumping height 13,760 mm (45'2")
 Max. digging depth 2,970 mm (9'9")
 Max. digging reach 17,620 mm (57'10")
 Level crowd at ground level 4,980 mm (16'4")
 Bucket opening width 2,960 mm (9'9")

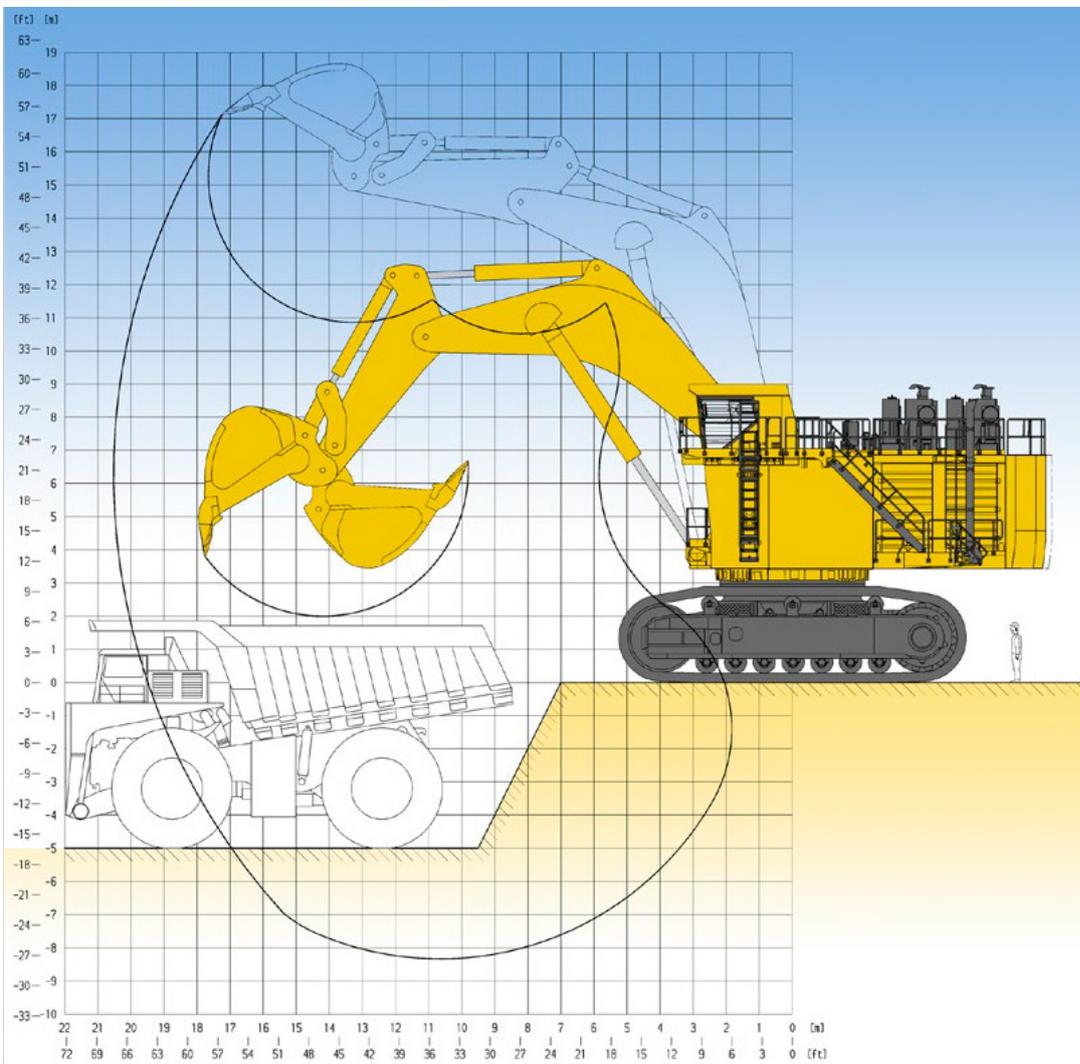
Bucket Capacity (Heaped 1:2) SAE		Width		Teeth	Wear Package acc. abrasiveness	GET System	Max Material Density (Loose)	
cum	cuyd	mm	foot/inch	QTY			t/cum	lb/cuyd
36,0	47,0	4.965	16'3"	6	Heavy	Hensley XS 644*	1,8	3,000
36,0	47,0	4.965	16'3"	6	Standard	Hensley XS 644*	1,8	3,000
36,0	49,7	4.965	16'3"	6	Light	Hensley XS 644*	1,8	3,000

Alternative buckets on request

*Other systems on request

PG7000-11

BACKHOE ATTACHMENT



BACKHOE ATTACHMENT

Boom length..... 11,000 mm (36'1")
 Stick length..... 5,100 mm (16'9")
 Break-out force (ISO) 1,692 kN (391,330 lb)
 Tear-out force (ISO)..... 1,499 kN (340,080 lb)

Max. digging height..... 17,130 mm (56'2")
 Max. dumping height..... 10,860 mm (35'8")
 Max. digging depth..... 8,340 mm (27'4")
 Max. digging reach..... 20,530 mm (67'4")
 Max. digging reach at ground level..... 19,600 mm (64'4")

Bucket Capacity (Heaped 1:1) SAE		Width		Teeth	Wear Package acc. abrasiveness	GET System	Max Material Density (Loose)	
cum	cuyd	mm	foot/inch	QTY			t/cum	lb/cuyd
36,0	47.0	4.550	14'11"	6	Heavy	Hensley XS 644*	1,8	3,000
36,0	47.0	4.550	14'11"	6	Standard	Hensley XS 644*	1,8	3,000
36,0	47.0	4.550	14'11"	6	Light	Hensley XS 644*	1,8	3,000

Alternative buckets on request

*Other systems on request

STANDARDS AND OPTIONS

FACTORY STANDARDS AND OPTIONS (AUSTRALIA)

FRONT SHOVEL ATTACHMENT

- 8,0 m 26'3" boom, 5,5 m 18'1" stick
- 36 m³ (47 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

- 11,0 m 36'1" boom, 5,1 m 16'9" stick
- 36 m³ (47 yd³) (SAE 1:1) 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
- 1500 mm 59" cast steel track shoes
- 1900 mm 75" 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
- 2 x Komatsu SSDA16V159E-2 Tier 2 diesel engines
- Electric drive various voltages
- Cable drum without cable

LIGHTING

- 16 LED high performance working lights
- Service lights throughout the platform incl. emergency egresses and stairways
- Rotafare warning lights

OPERATOR CAB

- Enclosed steel cab mounted on viscous pads
- FOPS according ISO 10262
- Air-conditioning unit Süttrak
- Full suspension operator 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 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 electro drive), external power source not included

SERVICE AND LUBRICATION

- LINCOLN central lubrication for basic machine, attachment and bucket
- 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
- Service transfer oil pump
- Engine oil management package (Reserve & Eliminator systems)
- Service Monitor (incl. all relevant manuals)

ACCESSORIES INCLUDED

Access and egress system

- 45° stairway design
- Hydraulically operated (two switches)
- Equipped with hand rails up to cab
- All steps with antislip edge
- Illuminated system

Emergency egress system

- Two pieces flip down solid antislip 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
- Service crane
- Special painting
- Biodegradable hydraulic oil

Further equipment on request

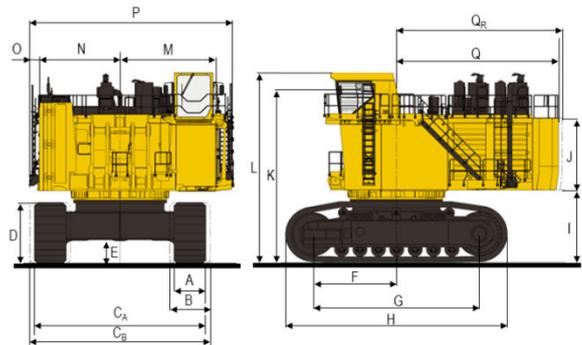
- Standard Equipment
- Optional Equipment



DIMENSIONS

BASIC MACHINE WITH COUNTERWEIGHT

A	1500 mm	4'11"	J	3430mm	11'3"
B	1900 mm	6'3"	K	8304mm	27'3"
C_A	8050mm	26'5"	L	9001mm	29'6"
C_B	8450mm	27'9"	M	4480mm	14'8"
D	2895mm	9'6"	N	3790mm	12'5"
E	1065mm	3'6"	O	480mm	1'7"
F	3945mm	12'11"	P	9620mm	31'7"
G	7875mm	25'10"	Q	7670mm	25'2"
H	10510mm	34'6"	Q_R	7850mm	25'9"
I	3437mm	11'3"			



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