



4800XPC

Electric Rope Shovel



Pictures may include optional equipment.

By applying state-of-the-art technology and innovative engineering, Komatsu designed the 4800XPC shovel to position it as the most productive electric mining shovel in the industry. This shovel was designed specifically to load ultra class dump trucks (from 360 to 400 st) in three passes

Our patented Adaptive Control technology optimizes the shovel's power use during dig cycle phases. Documented on-site tests have demonstrated the following benefits:

- Higher dig power of the shovel without reducing the machine's service life.
- Less impact loads or incorrect operations.
- Improved payload and excavation performance through machine control and a "smart" power application.
- Less operator fatigue thanks to the reduction of rocking movements.

4800XPC Electric Rope Shovel

Main technical information

Rated payload of 122.5 mt (135 st).
Rated dipper capacity (65.7 to 70.3 m³ [86 to 92 yd³] SAE).
Rated dipper capacity (72.5 to 77.6 m³ [92.7 to 99.1 yd³] SAE 2:1).
Maximum rated suspended load: 209 mt (230 st).
Operational weight: 1,655,124 kg (3,648,924 lb).

Operational ranges

Height of cut	18.9 m	62 ft 2 in.
Radius of cut	24.0 m	78 ft 7 in.
Maximum dump reach	19.4 m	63 ft 6 in.
Dump height (door open)	10.8 m	35 ft 7 in.
Floor level radius	16.2 m	53 ft 3 in.
Tail swing radius	9.9 m	32 ft 7 in.
Operator eye level	10.1 m	33 ft 1 in.

Electric power requirements

Supply voltage:
7,200 or 13,800V (3 phase, 60 Hz).
6,000 or 6,600; 7,200 or 11,000 (3 phase, 50 Hz).
Transformer voltage:
(Minimum) 3,750 kVA.
Minimum short circuit VA available at shovel
30 MVA.



Shovel configuration

Standard equipment

- Centurion control system with touchscreen in operator cab and electronics room, with standard operator and diagnostic interface pack.
- Digital AC Drive System with AC P&H motors.
- Dipper options (Optimum NG or TRC: trapezoid – roller – cast) with Hensley cutting hardware (GET) and armor pack installation.
- LED lights throughout the machine.
- Lubricant tanks (2), a 415 gal tank for open gear lubricant and a 620 gal one for grease.
- Air hose reel for compressor, with a 30 m/100 ft hose.
- Lubricant filtering for crowd drive with a 20-micron filter.
- Lubricant filtering for hoist drive with a 20-micron filter and an oil cooler.
- Lubricant filtering for each swing drive with a 20-micron filter.
- One-Eye magnetic filter for hoist, swing and travel drives.
- Field-installed central draining system for hoist and swing drives.
- Spring set for air-released disc brakes (one per motor) with separate insulation valves.
- Bell-type cage for air compressor.
- Desiccant air-drying system for rotary screw air compressor.
- Mine Air Systems climate control units for the operator's cab and the electronics room. Two 1500 MAS units, providing 96,000 BTU/h (28 kW) for cooling and 36 kW for heating; with an air-pressurizing filter and R407C coolant.
- Dual access system (1 stair per side.)
- Size of the hoist rope: 2,875" diameter, 391' long, 8x37 compact plastic coated RLL.
- Convex mirrors: Two (2) round 26" mirrors mounted at the front of the machine.
- 2 direct drive motors mounted on the crowd gear case.
- Boom point's sheave built-in design installed on the crowd gear case.
- Hoist cable model: Tiger Blue 8.
- Internal access to the boom to easily check for potential cracks.
- "Slacking" (loose) hoist cable detection system.
- Prevail remote monitoring system for a full operation year, supporting 5 users.
- ABSS System (Automatic Boom Soft Setdown.)
- Standard temperature monitoring system.
- Optidig II System.
- Payload 2 weighing system.
- Track Shield 2 system installed (prevents collisions between the dipper and the tracks).
- Adaptive controls included.
- Harmonics mitigation kit: Supplies conditioned power and protection against surges for on-board control of system hardware, TripRite unit and other delicate electronic devices.
- Operation (3), Service (1) and Parts (1) Manuals.



Optional equipment

- Emergency light system (1 or 2, as required by the customer).
- 6 lights total per unit: 2 on the power supply and 4 remote lights installed on-site.
- Additional outputs to supply soldering equipment with a cold or artic weather pack, as necessary.
- Intec internal video cameras (6 units).
- Internal communications pack (Gai-Tronics).
- High altitude pack with a transformer prepared to operate at over 3,500 m.a.s.l.
- Lincoln automatic lubrication system.
- Wiggins automatic filling system.
- Dual air compressor system.
- Next-generation seat (adjustable armrest seat); adjustable armrest and bottom tension lever(s).
- Toilet system with incinerator.
- Sink included: Sink and tap installed on the counter near the entrance door, at the cab's right hand.
- Lubricant tank prefilters, one system for the open gear tank and another one for the grease tank.
- Towing ears, at the front and rear of the body, mounted on-site.
- 2 additional lubricant pumps at the tanks, installed as spares, to make pump replacement easier: 1 installed at the OGL tank and 1 installed at the grease tank.
- Stinger: The support arm of the stinger's power supply cable provides a safe installation route for the last 3 or 4 meters of the incoming power supply cable, where it connects to the power supply coupler at the rear end of the shovel, when the drive machinery is operating. This prevents the track belts of the shovel from going over the cable during drive maneuvers of the shovel (Note: It does not apply to operations with cable reel.)
- Extension of the trail cable connector to the back of the drive motor base (Note: Not applicable for use with dragging cable roller. Coupler types different to standard PLM must be specified.)
- Truck localization guides (single or double arm.)
- Super Nut bolt connection for sprocket, track frames, boom point blocks and hoist drum shaft blocks.
- Extended temperature monitoring system.
- On-line vibration monitoring system.
- Hawkeye system.
- Exportation pack (drawers and loose load).
- Operation and maintenance training.
- ProManual access to on-line Service, Electrical, Hydraulic and Operation Manuals. The Parts Manual can be accessed on-line through "Link One" platform.
- Extended Warranty.

Operation benefits

- Significant improvement in ergonomics and comfort during operation.
- The highest power and working speed available in the market for its class.
- Less operator fatigue due to reduction of boom jacking.



Shovel movements	Features/benefit
• Crowd.	Twin low-inertia AC motors minimize shock loads and boom jacking. Direct drive crowd eliminates belt maintenance for improved responsiveness. Modular crowd motors with built-in pinions provide simplified motor replacement. Two input pinions sharing the load, extending service life. Dual spring-set and air-released brakes for reliable redundant operation.
• Hoist.	All gears are housed in a single enclosed gear case with filtered and cooled oil supplied to all bearings, in addition to splash lubrication, for reliable operation and easy maintenance. Large 68" diameter hoist drum for extended rope service life. Ferrule becket system and dual electric tuggers as standard equipment for efficient rope changes. Spring-set and air-released disc brakes - one per motor. Hoist rope fleeting sheave protects rope from excessive oscillation.
• Swing.	Three modular P&H planetary gear cases, with a proven design and a single piece forged swing gear, transmit torque for fast cycle times. Spring-set and air-released disc brakes - one per motor.
• Propel.	On-demand propel provides rapid transfer to propel mode. These rapid transfers provide quick re-positioning of the shovel on the bank, resulting in faster cycle times and more efficient digging. Two rugged P&H planetary cases of proven design transmit torque independently to the drive sprockets, producing the tractive effort required for fast, efficient propel and positioning operations. P&H Delta drive low tension sprocket drive system with heavy-duty cast crawler shoes. Spring-set and air-released disc brakes - one per motor.

Main technologies	Features/benefit
• Track Shield 2.	The only automatic operator-assisting technology that helps mitigate dipper-crawler shoes collision, preventing stops, reducing costs, and increasing the production and safety of the operation.
• Adaptive Control.	Our patented Adaptive Control technology optimizes the shovel's power use during dig cycle phases. Documented on-site tests have demonstrated the following benefits: Higher shovel dig power without reducing the machine's life. Less impact loads or incorrect operations. Better payload and excavation performance through control and "smart" power application. Less operator fatigue by reduction of rocking movements.
• Payload 2.	Helps operators to always achieve the optimum load range for the truck: Maximizes truck loads without overloading. Reduces truck and shovel overload-related structural damage and maintenance tasks. Reduces risk of dangerous and costly spills on haul roads. Saves production time by using to automatic calibration. Has all on-board information in the built-in graphical user interface (GUI) screen.
• 360° Vision System (Hawkeye).	A set of (4) wide-angle cameras show a 360° bird-eye view to improve the temporary knowledge of operators and personnel operating around the shovel. It helps to reduce accidents with nearby vehicles.
• Optidig II System.	Operator assistance tool coordinating hoist and traveling movements to avoid dipper stalling while digging.
• ABSS (Automatic Boom Soft Setdown) System.	A system reducing impact loads to machinery and structure caused by boom hoist.



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