HITACHI

EH 5000 AC II

Notes : This picture includes optional Dual ladder system, with upper staircase.

DUMP TRUCK

- **Model Code** : EH5000ACII
- **Nominal Payload with Standard Equipment** : 287 tonnes (316 tons)
- **Target Gross Machine Operating Weight** : 500 000 kg
- **Engine** : MTU Detroit Diesel 16V-4000 C23R
  Rated Power 2 014 kW (2 700 HP)

Refined engineering and New Generation AC Drive system technology has created hauling capability well recognized in the surface mining industry.

The EH5000ACII continues to prove itself as an exceedingly capable and reliable solution to mine applications worldwide.

AC Drive Proven Performance & Economic Advantages

Siemens "state of the art" IGBT AC Drive System makes your hauler a more valuable asset in your mining operation. Better performance, higher availability, and significant reductions in maintenance and operating costs - result in a lower cost per tonne and a higher return on your investment.

High-Powered Engine

The U.S. EPA Tier 2 certified MTU Detroit Diesel 16V Series 4000 engine with 2 014 kW (2 700 HP) and 11 307 N·m torque provides excellent reliability and unparalleled fuel efficiency. Additionally, optional higher power setting of 2 240 kW (3 000 HP) and 12 582 N·m is available.

New Comfort Cab

The new HI-TECH ROPS/FOPS Cab has been newly equipped with a Hitachi controller and a large color Liquid Crystal Display (LCD) which clearly details machine functions similar to those used on large sized Hitachi excavators.

Long Frame Life

A fabricated box section and rectangular frame rail construction provides superior resistance to bending and torsional loads. One-piece top and bottom flanges eliminate cross tie member tie-in joints and provide a larger exposed center area for access to major components.

Note: Photos in this brochure may include optional equipment.
They may also include custom-made options to meet specific user needs.

Well Matched: EH5000ACII & Excavators

Excavator	EX3600-6		EX5500-6		EX8000-6
Front	LD	BH	LD	BH	LD
Bucket	21.0 m³	*22.0 m³	27.0 m³	*29.0 m³	40.0 m³
Passes	8	8	6	6	4

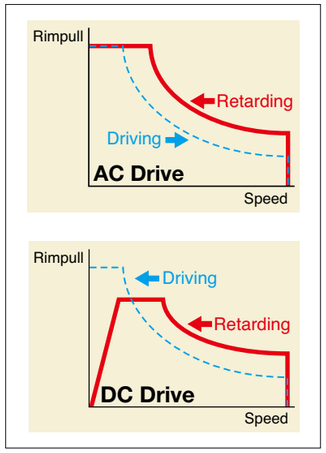
LD: Loading shovel BH: Backhoe * : SAE, PCSA heaped capacity

AC Drive Advantage

Hitachi IGBT AC drive technology, developed in conjunction with Siemens, provides superior performance with higher top speeds, better gradeability and stronger retardation due to the higher switching frequency and better component cooling in comparison to the conventional GTO system.
These features increase productivity and availability, and reduce operating and maintenance cost.
Lower maintenance costs are achieved with the use of a brushless alternator, brushless cooling* and drive motors, dual channeled air flow through wheel motors and water cooled components such as IGBT inverter modules, alternator rectifier and blower motors.
The Siemens AC motors do not have commutators, reducing costs and allowing the truck to achieve higher speeds. Less downtime and higher speeds result in more production and lower cost per tonne.

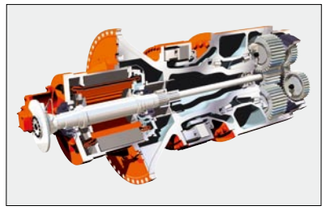
** Channeled Air Flow through the AC Wheel Motors is a Siemens Patented Design.*

Full Retarding Capability



Hitachi AC drive systems provide more rimpull than a comparable DC system. Full retarding capability means the truck can be almost fully stopped without applying the service brakes.

The AC Drive Traction Motors



The Hitachi Dual Path Epicyclic Planetary design provides high efficiency and easy maintenance. Allowing the 1st (outer) planetary carrier to travel at wheel speed provides lower operating temperatures - longer lubricant life, better component life.

Grid Box & Siemens Control Unit

A low profile grid box arrangement has been designed in consideration for operator visibility.
The new control cabinet is compact yet accommodates blower assemblies that cool the IGBT cabinet, drive system alternator and wheel motors.

Ease of Operation

New HI-TECH ROPS/FOPS CAB

This is the latest mining truck cab developed by Hitachi. A new Hitachi LCD has been engineered onto the dashboard of the EH5000ACII to eliminate separate lights and gauges. The LCD is positioned slightly to the right of center, allowing for a lower dashboard. This concept prevents the steering wheel from obstructing the operators' view of the LCD and results in better operator visibility of the ground area immediately ahead of the truck.
An analog display has been mounted to the overhead console to display the view of up to 4 cameras simultaneously. Three cameras mounted to the rear, right side and front of the truck are available as standard for improving visibility.

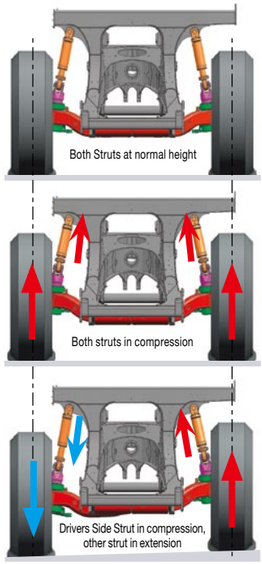
1. Speedometer with odometer
2. Tachometer with shift lever indicator
3. Engine oil pressure
4. Engine coolant temperature
5. Wheel motor temperature
6. Steer / brake supply pressure
7. Load weight indicator
8. Fuel gauge
9. Body angle indicator
10. Engine Indicators
11. Hydraulic Filter / Seat belt
12. Central warning
13. Traction control indicator
14. Hydraulic indicators
15. Lamp indicators
16. Service brake / lubricant indicators

Superior Suspension

The Hitachi ACCU-TRAC suspension system delivers excellent maneuverability, even at higher speeds. The trailing arm layout offers greater ease of servicing while improving truck performance compared to suspended king-pin designs. The pivot mounting of the trailing arm design allows only axial input to the strut and allows wheel movement to the vertical plane only.

Features:

- Lateral forces that act on the front wheels are minimized, resulting in reduced tire scuffing.
- Dynamic friction (side-wall force) within the strut is low due to the features of the ACCU-TRAC design, allowing the use of a lighter strut engineered to a smaller diameter and longer stroke.
- The necessary frame bulk (horse-collar structure) needed to mount a suspended king-pin is non-existent.
- The elimination of the “horse-collar” member provides greater engine access.
- The NEOCON strut used with the ACCU-TRAC suspension, improves operator and component isolation, provides better hauler stability and predictable operational control.
- Locating the king-pin close to the wheel assembly and at a slight angle results in low “Dry Park Steering” effort.
- Development of the compressible media, NEOCON- E™ fluid (proprietary, silicone based, environmentally friendly) for use in the suspension strut with helium gas, results in an improved energy absorption (isolation) system and an improved energy release (stability) system that responds favorably whether traveling empty or with payload in a wide range of ambient temperatures.



With no horizontal deflection

Spindle
Each controlled by a hydraulic steering cylinder, rotates around the king-pin and the outer end of the trailing arm to position the wheels for steering. The spindles are attached by one simple tie-rod.

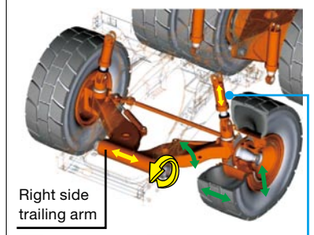
King-Pin
Retains the spindle to the trailing arm. Spindle rotates around the king-pin, which is locked in position. The Neocon-E strut attaches to the top. A bolt on clevis allows ease of servicing.

Trailing Arm
Main suspension member to which other suspension components are attached. The trailing arms hinge on a cross shaft that is clamped to the front of the frame.

Neocon Strut
The energy absorption and release component of the ACCU-TRAC suspension system. Pinned to ball bushings at the frame and at the top of the king-pin to prevent bending movements from transferring to the strut. Receives only axial input.

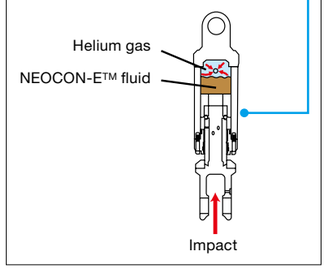
The ACCU-TRAC suspension design allows the front struts to be removed and installed without removing the trailing arms, brakes or tires. This relates to fewer tools and less labor required to perform this service, which aims to reduce the amount of hauler downtime, increasing productivity.

ACCU-TRAC SUSPENSION



Input Force **Resultant Force**

NEOCON Strut (Front/Rear)



Auto-Lubrication System

A pump fed system automatically applies grease to lube points via plumbing. The lubricant is automatically delivered in time controlled and metered quantities to all connected lube points in the system.

SPECIFICATIONS

ENGINE

Standard:

Model	MTU Detroit Diesel 16V-4000 C23R
Type	4 Cycle Diesel w/ ADEC
Aspiration	Turbocharged & low temperature aftercooled
Emission Certification	U.S. EPA Tier 2
Rated power	
SAE J1995, gross	2 014 kW (2 700 HP) at 1 800 min^{-1} (rpm)
Net	1 896 kW (2 542 HP) at 1 800 min^{-1} (rpm)
Maximum Torque	
(SAE J1995)	11 307 N·m (1 153 kgf·m) at 1 700 min^{-1} (rpm)
No. of Cylinders	16
Bore & Stroke	170 x 210 mm
Displacement	76.3 L
Starting	24 Volt Electric

Optional:

Model	MTU Detroit Diesel 16V-4000 C23
Type	4 Cycle Diesel w/ ADEC
Aspiration	Turbocharged & low temperature aftercooled
Emission Certification	U.S. EPA Tier 2
Rated power	
SAE J1995, gross	2 240 kW (3 000 HP) at 1 800 min^{-1} (rpm)
Net	2 119 kW (2 842 HP) at 1 800 min^{-1} (rpm)
Maximum Torque	
(SAE J1995)	12 582 N·m (1 283 kgf·m) at 1 700 min^{-1} (rpm)
No. of Cylinders	16
Bore & Stroke	170 x 210 mm
Displacement	76.3 L
Starting	24 Volt Electric

Optional:

Model	MTU Detroit Diesel 16V-4000 C21L
Type	4 Cycle Diesel
Aspiration	Turbocharged & low temperature aftercooled
Emission Certification	U.S. EPA Tier 1
Rated power	
SAE J1995, gross	2 014 kW (2 700 HP) at 1 900 min^{-1} (rpm)
Net	1 939 kW (2 600 HP) at 1 900 min^{-1} (rpm)
Maximum Torque	
(SAE J1995)	10 930 N·m (1 115 kgf·m) at 1 500 min^{-1} (rpm)
No. of Cylinders	16
Bore & Stroke	165 x 190 mm
Displacement	65 L
Starting	24 Volt Electric

ELECTRICAL DRIVE

Standard Grade Application:

Control System	Siemens IGBT Liquid Cooled Single Inverter
Wheel Motors	High Efficiency Standard AC Motors with channeled air cooling*

Optional - Medium Grade Application:

Control System	Siemens IGBT Liquid Cooled Dual Inverter
Wheel Motors	High Efficiency Intermediate AC Motors with channeled air cooling*

Optional - Deep Pit Application:

Control System	Siemens IGBT Liquid Cooled Dual Inverter
Wheel Motors	High Efficiency High Power AC Motors with channeled air cooling*

** Siemens Patented Design*

Common:

Alternator	3-Phase Brushless AC Generator, Direct Mount to Engine

Axle:

Standard Planetary Ratio	35.8:1
Maximum Speed (standard)	66.4 km/h
Optional Planetary Ratio	40.8:1
Maximum Speed (optional)	58.3 km/h

TIRES

Front and Rear	Rim Width
53/80 R63	965 mm (38 in)

Certain job conditions may require higher TKPH (TMPH) in order to maintain maximum production. Hitachi recommends evaluating the job conditions and consulting the tire manufacturer to make proper tire selection.

ELECTRICAL SYSTEM

Twenty-four volt system. 260 ampere engine driven alternator. Six G31, 12 volt, heavy duty maintenance free batteries connected in series/parallel.

BODY CAPACITIES

Struck (SAE)	156 m^3
Heap 3:1	190 m^3
Heap 2:1 (SAE)	206 m^3

Body capacity and payload subject to change based on customer specific material density and application.

STEERING SYSTEM

Closed-center, full time hydrostatic power steering system using two double-acting cylinders and a variable displacement piston pump. Hitachi accumulators provide supplementary steering in accordance with ISO 5010 (SAE J1511), supplying a constant steering rate under all conditions. A tilt/telescopic steering wheel with 35 degrees of tilt and 57 mm telescopic travel is standard.

Turning Diameter (ISO 7457)	31.9 m
Steering Pump Output	249 L/min at 1900 min^{-1}(rpm)
System Pressure	20 685 kPa

HYDRAULIC SYSTEM

A dual tank assembly prevents cross contamination between the steering/brake apply system and the hoist/brake cooling system. Two (2) Hitachi three-stage, double-acting cylinders, with improved control in extension, containing dual rod seals and urethane energized scrapers, inverted and outboard mounted. The cylinders are connected to a tandem gear pump through a four position electronically piloted hoist control valve. An electric controller is mounted to operator's seat.

Body Raise Time	23 s
Body Down Time (Float)	22 s
Hoist Pump Output Total	1 002 L/min at 1900 min^{-1}(rpm)
System Relief Pressure	21 030 kPa

BRAKE SYSTEM

Brake system complies with ISO 3450 (SAE J1473).

Service

The all-hydraulic actuated braking system provides precise braking control and quick system response. The system is pressure proportioned, front to rear, for improved control on slippery roads.

Front Axle – Dry Disc

Number of Discs per Axle	2
Number of Pads per Axle	12
Disc Diameter	132 cm
Lining Area per Axle	6 194 cm^2
Brake Pressure (Max.)	20 700 kPa
Braking Surface Area per Axle	18 548 cm^2

Rear Axle – Oil-cooled Wet Disc

Brake Surface Area per Axle	180 741cm^2
Brake Pressure (Max.)	15 856 kPa

Secondary

Dual independent hydraulic circuits within the service brake system provide fully modulated reserve braking capability. Both front and rear brakes are automatically applied when loss of supply pressure is detected.

Parking

Type	Dry Disc - Spring Applied, Hydraulic Off
Location	Wheel Motor
Size	63 cm
Lining Surface Area	211 cm^2
Number of Heads per Axle	4

Retarder

Superior retardation to zero speed on grades is achieved through AC wheel motors in conjunction with the Hitachi silent resistor grid packages.

Maximum dynamic retarding with continuous rated blown grids:

Medium dynamic retard setup	3 562 kW
Maximum dynamic retard setup	4 612 kW

Load/Dump Brake Apply

Through activation of a switch by the operator, a solenoid is energized, sending full brake pressure to apply the rear wet disc brakes. For use during the load and dump cycles.

WEIGHTS

These specifications represent a standard equipped EH5000ACII.

Chassis with Hoist	171 300 kg
Body	42 060 kg
Net Machine Weight	213 360 kg
The Net Machine Weight specification includes operator and 100 % fuel.	
Nominal Payload	287 tonnes
Target GMOW	500 000 kg

Note 1:
The optional engine and drive system cause a slight increase in Net Machine Weight.

Note 2:
The Nominal Payload specification is calculated using the Hitachi Loading Policy. Specific job site requirements may result in an adjustment to the Nominal Payload weight. Consult your Hitachi dealer for a truck configuration which will match your haulage application.

Weight Distribution	Front	Rear
Empty	49-51 %	49-51 %
Loaded	33 %	67 %

HI-TECH ROPS / FOPS CAB

New Hi-Tech ROPS / FOPS Cab

ROPS and FOPS comply with ISO3471, SAE J1040-May 94 and ISO3449. A three-point rubber iso-mount arrangement to the high-arch cross member minimizes vibration transfer to the operator compartment.

Drive Monitoring System

A new color LCD has been engineered onto the dashboard of the EH5000ACII. All lights, gauges and indicators are provided in one location, bringing ease of operation to the operator.

Camera Monitoring System

Included as standard visibility equipment, an analog monitor has been mounted to the upper console to display live camera information of the rear, front bumper, and right front tire area.

Comfort and Ease of Operation

The enlarged cab adequately fits a full size trainer's seat and provides more overall comfort. Ample visibility is provided by large glass sections in doors and windows. An ergonomic shift lever that is positioned for ease of operation also increases operator comfort. Heating capability of 40 000 BTU/hr, and cooling capability of 30 500 BTU/hr to provide comfort in a wide range of ambients. Improved cab air flow has increased pressurization. The cab air filter element is easily accessible from behind the front cab cover. The heating/air conditioning system provides an LCD display with push button control. A new parking brake alarm will sound if the parking brake switch is not in the applied position while the engine is running and the operator is not sitting in the drivers seat. Optional electric windows are available for both cab doors. The window control is available to the operator and rider as the switches are mounted to the center console. Cab interior sound pressure level measured according to ISO6394:1998 is 79.3 dB(A).

SPECIFICATIONS

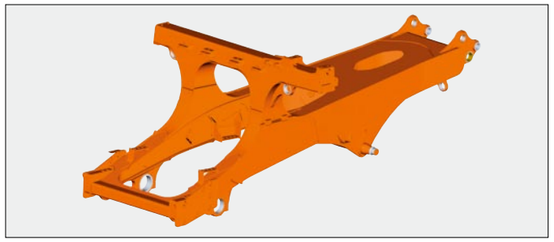
SUSPENSION

Front Suspension
Independent trailing arms make up the front axle. NEOCON struts containing energy-absorbing gas and compressible NEOCON-E™ fluid are mounted between the trailing arms and frame. Inherent in the Neocon strut design is a variable damping and rebound feature.

Rear Suspension
An "A" frame structure, integral with axle housing, links the drive axle to the frame at a point forward of center using a pin and spherical bushing. A track rod provides lateral stability between the frame and drive axle. Heavy-duty rear-mounted NEOCON struts containing energy-absorbing gas and compressible NEOCON-E™ fluid suspend the drive axle from the frame. Integral variable damping and rebound feature included.

FRAME

Full fabricated box section main rails with section height tapered from rear to front. Wider at the rear to support the loads and narrower at the front to allow for engine accessibility. One piece top and bottom flanges that eliminate cross member tie in joints and provide a large exposed center area for access to major components. Large radii minimize stress concentrations. Welded joints are oriented longitudinally to the principal flow of stress for greater durability and more strength.



BODY

An extended canopy protects service deck area. High tensile strength 400 BHN abrasion resistant alloy steel is used in thicknesses of:

Floor	19 mm (0.75 in)
Front	12.7 mm (0.50 in)
Sides	10 mm (0.39 in)
Canopy	6 mm (0.24 in)
Corners	19 mm (0.75 in)

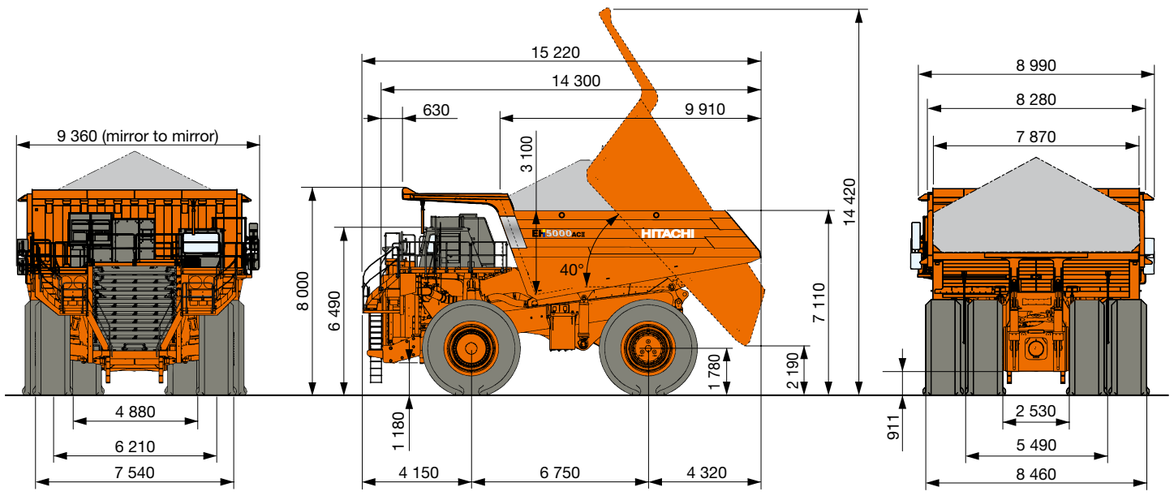
High strength 690 N/mm^2 (100 000 psi) alloy steel is also used for the canopy side members and floor stiffeners. The body is rubber cushioned on the frame.

SERVICE CAPACITIES

Engine Oil Pan (includes filters)	
Standard 2 700 HP Engine	240 L
Optional 3 000 HP Engine	240 L
Cooling System	734 L
Fuel Tank	4 732 L
Hydraulics	
Hoist System	965 L
Steering System	291 L
Planetary Drives	223.2 L
Front Wheels	27 L
Windshield Washer	7.6 L

DIMENSIONS

unit : mm



Note 1: Dimensions shown are for an empty machine with 53/80 R63 tires.
Note 2: Overall height of 14 460 mm is default dump height.
Note 3: Overall height with body up when propped is 14 830 mm.

EQUIPMENT

STANDARD EQUIPMENT

GENERAL

- Accu-Trac front suspension
- Air conditioning
- Air cleaner protection
- All hydraulic braking
- Arm guard, mounted to left side of canopy
- Auto-lubrication system
- Batteries, 6 x G31series, maintenance free, right front mounted for ground level access
- Battery boost receptacle
- Battery isolation switch
- Body down indicator, mechanical
- Body prop pins
- Centralized "fast fill" service panel w/ fast fuel, panel mounted under hydraulic tank
- Continuous heated body
- Cruise control, propel/retard
- Diagonal stairway, right side escape
- Electric horn (4)
- Electronic hoist control
- Electric start
- Engine access ladders (2)
- Engine oil spinner filters
- Engine pre-lube
- Engine self load test
- Engine water blanket
- Extended body canopy
- Fan and belt guards
- Fast fill fueling, tank side
- Fuel tank, 4732 L
- Fuel water separator
- Grid box guard, mounted to right side of canopy
- Ground level engine shutdown switch
- Guard rails around platform
- Haultronics III loadweighing system
- HID headlights
- Hoist kickout, adjustable
- Mirrors, left and right
- Mud flaps
- NEOCON suspension struts
- Operator and service LCD information panel
- Propulsion interlock, body up
- Radiator grill guard
- Retard speed control
- Retarder grid package, 14 element
- Reverse alarm
- Reverse light
- Rock ejector bars
- Stairway lights
- Supplementary braking system, accumulators
- Supplementary steering system, accumulators
- Thermatic fan
- Tow hooks, front
- Two-position handrail
- Video cameras (3) mounted to view the front, rear and right front tire

CAB

- Acoustical lining
- Air filtration/replaceable element
- Ashtray
- Auxiliary outlet, 12 volt
- Cab interior light
- Camera monitor, 4 quadrant view
- Cigar lighter
- Dashboard mounted connectors for PC interface
- Door locks
- Engine start/shutdown switch
- Extendable sun visor
- Heat and defrost
- Integral ROPS/FOPS cab
- ISO driver envelope
- LCD operators display
- Load and dump switch
- Modular instrumentation
- Roll down windows
- Rubber floor mat
- Safety glass
- Seat with 75 mm lap belt
  - Air suspension seat, 6 position
  - Trainer's seat, full size mechanical
- Tilt and telescopic steering wheel
- Windshield washer
- Windshield wipers, dual arm

DASHBOARD INDICATORS

- Hitachi monitoring and alarm system, multi-display using LCD monitor

Operational View
- Air filter restriction
- Autolube failure
- Battery, 24 V charge condition
- Body up indicator
- Blower loss
- Brake pressure
- Brake temperature
- Central warning
- Engine coolant level
- Engine coolant temperature
- Engine oil pressure
- Engine stop
- Fuel level
- High beam indicator
- Hoist filter restriction
- Hoist lever in HOLD
- Hoist oil temperature
- Hourmeter
- Load/dump
- Parking brake indicator
- Payload amount
- Retard limit exceeded
- Seat belt, disconnected
- Service brake application
- Speedometer
- Steering and brake supply pressure
- Steering filter restriction
- Steering oil temperature
- Tachometer
- Traction system fault
- Turn signals/hazard
- Wheel motor temperature

Service View
- Electronic monitoring fault identification
- Systems information for troubleshooting

MACHINE LIGHTS

- Access Ladder lights (3)
- Back-up lights (2)
- Clearance lights, LED (4)
- Deck light (1)
- Dual combination stop and tail lights, LED (2)
- Dynamic retarding light, LED (1)
- Engine compartment lights (2)
- HID headlights (4)
- Payload monitoring lights, LED (2 locations of 2 lights each)
- Rear axle light (1)
- Turn signals and 4-way flashers
- Work lights, halogen (2)

OPTIONAL EQUIPMENT

- Air conditioning condenser located on top of the cab
- Auxiliary dump connections
- Auxiliary steering connections
- Auxiliary steering, using powerpack
- Auxiliary tire/work lights
- Batteries, 6 x G31series, maintenance free, left front mounted for ground level access
- Batteries, 6 x 8D, maintenance free, right or left front mounted for ground level access
- Body, custom designed for application
- Body mounted signal light kit
- Body prop cable
- Body prop cable with pin system
- Circuit breakers, 24 volt
- Cold weather package
  - Extreme cold weather package (to -40 deg. C) includes a Wabasto heater for the engine and drive system coolant with deep draw deck mounted batteries, synthetic wheel bearing grease, cold temp. brake seals
  - Mild cold weather package (to -20 deg. C) includes a Wabasto heater for the engine, synthetic wheel bearing grease, cold temp. brake seals
- Conduit enclosed harness (per MDG-15)
- Custom exterior paint
- Diagonal stairway, left side escape
- Diagonal stairway, left and right side escape
- Dual ladder system, with upper staircase
- Electric windows
- Engine power rating choices
- Engine idle/shutdown timer
- Extended front bumper
- Fluid sampling ports
- Fog lights
- Fuel level sensor, ultrasonic
- Fuel tank, 3 785 L
- Heated mirrors
- High altitude grid box
- High pressure auto-lubrication pump
- Hydraulic oil level sensor, ultrasonic
- Hydraulic tank shut-off valves w/ disable switches
- Keyless starter switch
- LED Headlights
- Liner kits
- Loadweight indicators (numerical display x 2)
- Operator/trainer seat choices
  - Air ride seat with 50 mm shoulder and lap belts, heated cushions
  - Semi-active seat with 50 mm shoulder and lap belts, heated cushions
- Radio
  - AM FM receiver, with CD and auxiliary input
  - No radio, speakers with antenna only
- Rear exhausting mufflers, non-heated body
- Rims, speedwheels
- Sound attenuation (meets Australia's NSW, Hunter Valley regulation)
- Spare rims available on request
- Tinted side and rear windows
- Tire valves, megabore
- Tool kit
- Tow package
- Trolley assist configuration
- Various drive system configurations
- Video camera for the left side
- Wheel chocks
- Work lights, HID

Standard and optional equipment may vary from country to country. Special options provided on request. All specifications are subject to change without notice.

These specifications are subject to change without notice.
Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, and all standard equipment with some differences in color and features.
Before use, read and understand the Operator's Manual for proper operation.

Hitachi Construction Machinery Co., Ltd.
www.hitachi-c-m.com

KR-EN029P 12.01 (SA / KA, FT3)

Printed in Japan