

# KOMATSU®

## HM400-2

**GROSS HORSEPOWER**

**338 kW 453 HP**

**NET HORSEPOWER**

**327 kW 438 HP**

**MAXIMUM GVW**

**69040 kg 152,200 lb**

**ecot3**

**HM  
400**



Photo may include optional equipment.

ARTICULATED DUMP TRUCK

# WALK-AROUND

*The HM400-2 with new ecot3 engine certified by EPA Tier 3 and EU Stage 3A emissions offers all around maximum productivity with faster travel speed. It features enhanced efficiency while reducing maintenance costs. From rough terrain construction sites to landfills - the HM400-2 has the competitive edge.*

## **Wide, spacious cab with excellent visibility**

- The wide cab offers a comfortable operator and passenger environment
- Viscous mounts support the cab while absorbing vibrations and noise
- Low-noise cab through improved sealing with integrated floor  
Interior noise level 76 dB(A)
- Additional front under view mirrors provide superior visibility
- Air suspension seat is standard
- Power window (L.H)

## **High performance and environment-friendly SAA6D140E-5 ecot3 engine**

- Gross horsepower **338 kW** 453 HP
- EPA Tier 3 and EU Stage 3A emissions certified
- Engine power mode selection system realizes both greater productivity and improved fuel economy
- Higher engine output and torque improve productivity in all applications

**Tiltable cab** can be tilted rearward 32 degrees to provide easy service.



## **Fully hydraulic articulated steering**

- Light and easy operation
- Minimum turning radius **8.7 m** 28'7"

**GROSS HORSEPOWER**  
338 kW 453 HP @ 2000 rpm

**NET HORSEPOWER**  
327 kW 438 HP @ 2000 rpm

**MAXIMUM GVW**  
69040 kg 152,200 lb

***Komatsu designed, electronically controlled transmission for a comfortable ride.***

F6-R2 counter-shaft type transmission with K-ATOMiCS (Komatsu Advanced Transmission with Optimum Modulation Control System). Transmission shift hold button optimizes the operator control.

***Easy-to-load body***

- Heaped capacity **22.3 m<sup>3</sup>** 29.2 yd<sup>3</sup>
- Low loading height **2970 mm** 9'9"
- High strength body constructed of thick wear-resistant steel having 400 Brinell hardness



Photo may include optional equipment.

***Interaxle & differential locks provide excellent traction in rough terrain.***

The oil-cooled multiple-disc interaxle lock and differential locks can be turned on and off during travel. In addition, the differential locks can lock up all three axles' differentials for maximum traction.

***High capacity, reliable, continuously cooled, wet type multiple-disc brakes and retarder***

- Fully hydraulic controlled wet multiple-disc brake
- Retarder absorbing capacity (continuous descent)  
**389 kW** 533 HP



***Hydro-pneumatic suspension for all terrains.***

The hydro-pneumatic suspension in both front and rear suspensions assures a comfortable ride even over rough terrain.

## PRODUCTIVITY FEATURES

*The combination of high travel speeds and an efficient engine with low emissions delivers maximum productivity at the lowest cost.*

### Komatsu technology



Komatsu develops and produces all major components, such as engines, electronics and hydraulic components, in house.

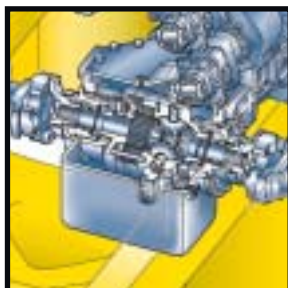
With this "Komatsu Technology," and adding customer feedback, Komatsu is achieving great advancement in technology.

To achieve both high levels of productivity and economical performance, Komatsu has developed the main components with a total control system.

The result is a new generation of high performance and environment friendly machines.

### High performance Komatsu SAA6D140E-5 engine

This engine delivers faster acceleration and higher travel speeds with high horsepower per ton in its class. Advanced technology, such as Common Rail Injection system (CRI), air to air aftercooler, and an efficient turbo-charger enables the engine is EPA Tier 3 and EU Stage 3A emissions certified. High torque at low speed, impressive acceleration, and low fuel consumption ensure maximum productivity.



### Engine power mode selection system

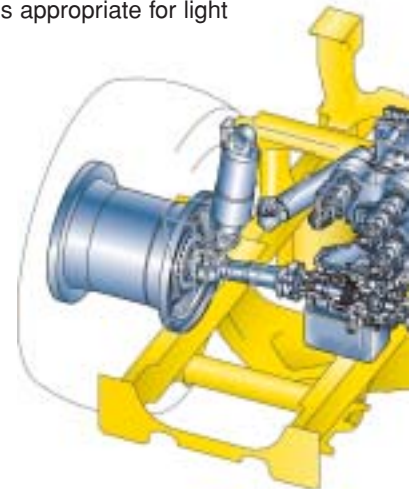
The system allows selection of the appropriate mode between two modes <Power mode > or <Economy mode> according to each working condition. The mode is easily selected with a switch in the operator's cab.

#### Power mode

Great productivity can be attained by taking a full advantage of high output power. It is appropriate for job sites where larger production at uphill-hauling is required.

#### Economy mode

Engine speeds of the maximum output, downshift, and upshift are set to a lower level. It is appropriate for light work on the flat ground.



### Komatsu designed electronically controlled countershaft transmission

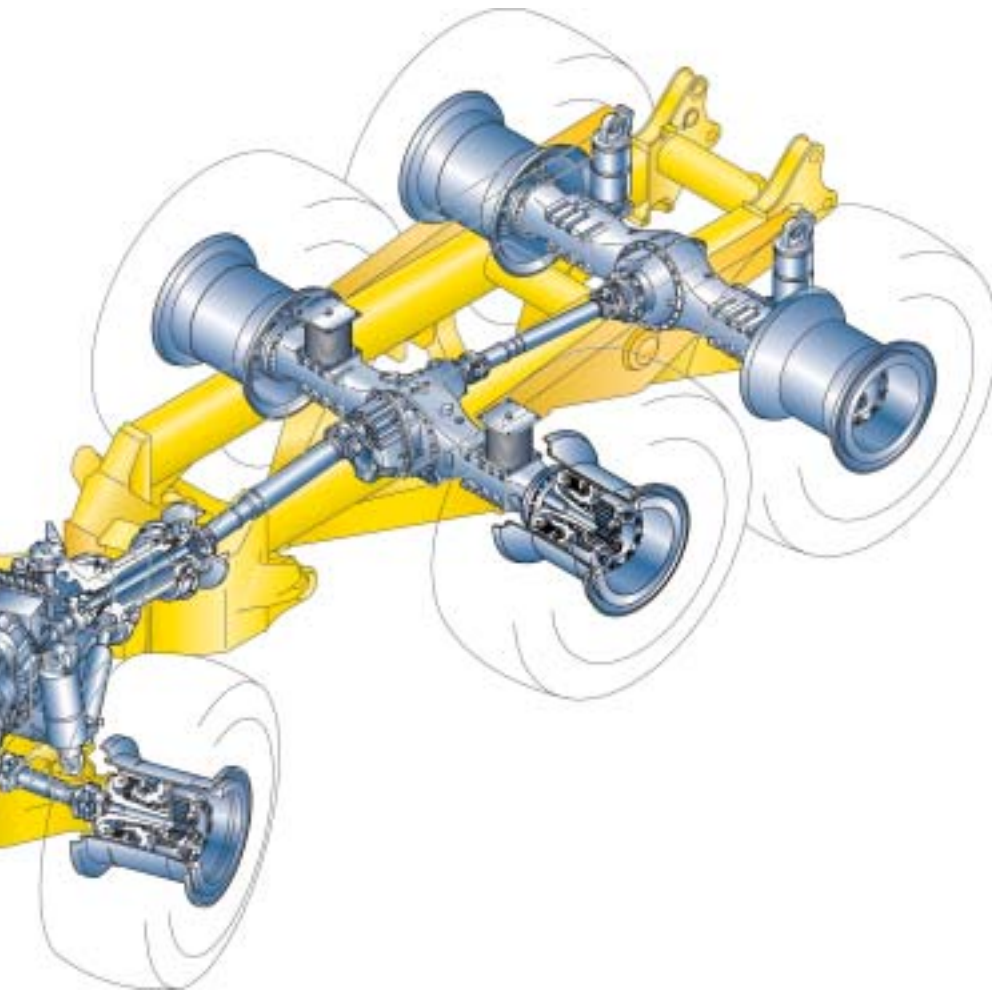
The Komatsu designed Electronically Controlled Transmission called K-ATOMiCS has been a success in Komatsu's rigid dump trucks. The electronic clutch modulation system ensures proper clutch pressure when the clutch is engaged. The total control system controls both the engine and transmission by monitoring the vehicle conditions. This high technology system assures smooth shifts without shock and maximizes power train life.

### Komatsu designed interaxle and differential locking systems

The full-time six-wheel drive system reduces slippage. A wet multiple-disk interaxle clutch also locks the three axles in unison for greater traction. The interaxle lock and differential locks can be switched on and off while the truck is travelling, thereby boosting productivity. In addition, the differential lock switch, which is a three position switch, can lock up the rear axle differentials only, or all axles for maximum performance in the worst conditions.

### Hydro-pneumatic suspension

The hydro-pneumatic suspension has been proven on Komatsu's rigid dump trucks. The front axle hydro-pneumatic suspension employs "De Dion" type design, allowing the machine to ride more smoothly over bumps. The rear-axles are mounted on a dynamic equalizer structure equipped with hydro-pneumatic suspension. The entire vehicle's suspension delivers a comfortable ride and maximizes productivity.



### Large capacity body and box section frame structure

The HM400 has the large heaped capacity of **22.3 m<sup>3</sup>** 29.2yd<sup>3</sup> body. The low loading height of **2970 mm** 9'9" enables easy loading. The body is built of high strength wear-resistant steel with a Brinell hardness of 400, and the body shape provides excellent load stability. Rugged enough for the toughest jobs, the HM400's frame is designed using a rigid box structure with connecting torque tubes made of high strength low alloy steel.

### Hydraulically controlled wet multiple-disc brakes and retarder

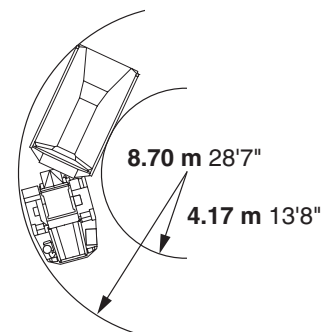
Wet multiple-disc brakes have been proven on Komatsu dump trucks and wheel loaders ensuring highly reliable and stable brake performance. The large-capacity, continuously cooled, wet-multiple disc brakes also function as a highly responsive retarder which gives the operator greater confidence at higher speeds when travelling downhill.

Retarder Absorbing Capacity (continuous descent):

**389 kW** 533 HP

### Articulated steering

Fully hydraulic articulated steering offers low-effort operating performance and maneuverability. A minimum turning radius of only **8.7 m** 28'7" provides ability to work in tight areas.



# OPERATOR ENVIRONMENT

*Komatsu has developed a state-of-the-art, wide comfortable cab. The low level of vibration and noise ensure maximum productivity from the operator.*

### Low-noise designed cab

Integrated cab and floor provide airtight cab. Engine room is also sealed. The low noise and sound insulated muffler /exhaust pipe contribute to reducing sound levels. All these together offer a quiet and comfortable operator environment.

### Wide, spacious cab with excellent visibility

The wide cab provides a comfortable space for the operator and a full size buddy seat. Large electrically operated window and the operator's seat positioned to the left side ensures superior visibility.

### Ergonomically designed cab

The ergonomically designed operator's compartment makes it very easy and comfortable for the operator to use all the controls. The result is more confident operation by operators and greater productivity.

The front under view mirrors are increased to two from one, and the rear view mirrors increased to four from two.

Newly employed laminated glass in the windshield assures safe operation. In addition, electric heated rear window facilitates defrosting.



### Easy-to-see instrument panel

The instrument panel makes it easy to monitor critical machine functions. In addition, a caution light warns the operator of any problems that may occur. This Komatsu on-board monitoring system makes the machine very friendly and easy to service.

### Steering wheel and pedals

Low effort pedals reduce operator fatigue when working continuously for long periods. The tiltable, telescoping steering column enables operators to maintain the optimum driving position at all times.



**Built-in ROPS/FOPS cab**

These structures conform to ISO 3471-1994 standard.

**Hydro-pneumatic suspension for all terrains**

The hydro-pneumatic suspension assures a comfortable ride even over rough terrain and ensures maximum productivity and operator confidence.

**Viscous cab mounts**

Viscous mounts reduce the noise transmitted to the cab and achieve a quiet 76 dB(A) noise level

**Air suspension seat is standard**

The air suspension, fabric-covered seat which is adjustable to the operator's weight is provided as standard. The air suspension seat dampens vibrations transmitted from the machine and reduces operator fatigue as well as holding the operator securely to assure confident operation.

**Electric body dump control lever**

The low effort lever makes dumping easier than ever.

**Supplementary steering and secondary brakes**

Supplementary steering and secondary brakes are standard features.

Steering: ISO 5010-1992, SAE J1511

Brakes: ISO 3450-1996



# EASY MAINTENANCE

*The HM400-2 has been designed to keep service time down and productivity up by reduced number of grease points, easy access to filters, and longer intervals between oil changes.*

### Tiltable cab

The cab can be tilted rearward 32 degrees to provide easy maintenance/service for the engine and transmission.

Note: An external hydraulic pump is required to tilt the cab or a service crane can be used after easily removing only eight bolts...



### Fewer grease points

The number of grease points are minimized by using maintenance-free rubber bushings.

### Extended service intervals

In order to minimize operating costs, service intervals have been extended:

- Engine oil 500 hours
- Transmission oil 1000 hours
- Engine oil filters 500 hours
- Transmission oil filters 1000 hours

### Guards

The following guards are provided as standard:

- Protective grille for rear window
- Engine underguard
- Heavy duty transmission underguard
- Propeller shaft guards
- Exhaust thermal guard
- Fire prevention covers





# SPECIFICATIONS



## ENGINE

Model	Komatsu SAA6D140E-5
Type	Water-cooled, 4-cycle
Aspiration	Turbo-charged, after-cooled, cooled EGR
Number of cylinders	6
Bore	140 mm 5.51"
Stroke	165 mm 6.50"
Piston displacement	15.24 ltr. 930 in <sup>3</sup>
Horsepower	
SAE J1995	Gross <b>338 kW</b> 453 HP
ISO 9249 / SAE J1349	Net <b>327 kW</b> 438 HP
Rated rpm	2000 rpm
Fan drive type	Mechanical
Maximum torque	<b>213 kg·m</b> 1,541 lb. ft
Fuel system	Direct injection
Governor	Electronically controlled
Lubrication system	
Method	Gear pump, force-lubrication
Filter	Full-flow type
Air cleaner	Dry type with double elements and precleaner, plus dust indicator
EPA Tier 3 and EU Stage 3A emissions certified.	



## TRANSMISSION

Torque converter	3-elements, 1-stage, 2-phase
Transmission	Full-automatic, counter-shaft type
Speed range	6 speeds forward and 2 reverse
Lockup clutch	Wet, single-disk clutch
Forward	Torque converter drive in 1st gear, direct drive in 1st lockup and all higher gears
Reverse	Torque converter drive and direct drive in all gear
Shift control	Electronic shift control with automatic clutch modulation in all gear
Maximum travel speed	<b>58.5 km/h</b> 36.4 mph



## AXLES

Full time all wheel drive with 100% differential lock	in all axles.
Final drive type	Planetary gear
Ratios:	
Differential	3.417
Planetary	4.941



## SUSPENSION SYSTEM

Front	Hydro-pneumatic suspension
Rear	Combined hydro-pneumatic and rubber suspension system



## STEERING SYSTEM

Type	Articulated type, fully hydraulic power steering with two double-acting cylinders
Supplementary steering	Automatically actuated, electrically powered
Minimum turning radius, wall to wall	<b>8.7 m</b> 28'7"
Articulation angle	45° each direction



## BRAKES

Service brakes	Full-hydraulic control, oil-cooled multiple-disc type on all wheels
Parking brake	Spring applied, caliper disc type
Retarder	Front and center axle brakes act as retarder



## MAIN FRAME

Type	Articulated type, box-sectioned construction on front and rear Connected by strong torque tubes.
------	---



## BODY

Capacity:	
Struck	<b>16.5 m<sup>3</sup></b> 21.6 yd <sup>3</sup>
Heaped (2:1, SAE)	<b>22.3 m<sup>3</sup></b> 29.2 yd <sup>3</sup>
Payload	<b>36.5 metric tons</b> 40 U.S. tons
Material	<b>130 kg/mm<sup>2</sup></b> 185,000 psi high tensile strength steel
Material thickness:	
Bottom	<b>16 mm</b> 0.63"
Front	<b>8 mm</b> 0.31"
Sides	<b>12 mm</b> 0.47"
Target area (inside length x width)	<b>5629 mm x 3194 mm</b> 18'6" x 10'6"
Heating	Exhaust heating (option)



## HYDRAULIC SYSTEM

Hoist cylinder	Twin, 2-stage telescopic type
Relief pressure	<b>20.6 MPa</b> 210 kg/cm <sup>2</sup> 2,990 psi
Hoist time	12 sec



## CAB

Dimensions comply with ISO 3471 ROPS (Roll-Over Protective Structure) standard
--



## WEIGHT (APPROXIMATE)

Empty weight	<b>32,460 kg</b> 71,560 lb
Gross vehicle weight	<b>69,040 kg</b> 152,200 lb
Weight distribution:	
Empty: Front axle	55.1%
Center axle	22.8%
Rear axle	22.1%
Loaded: Front axle	29.0%
Center axle	35.7%
Rear axle	35.3%



## TIRES

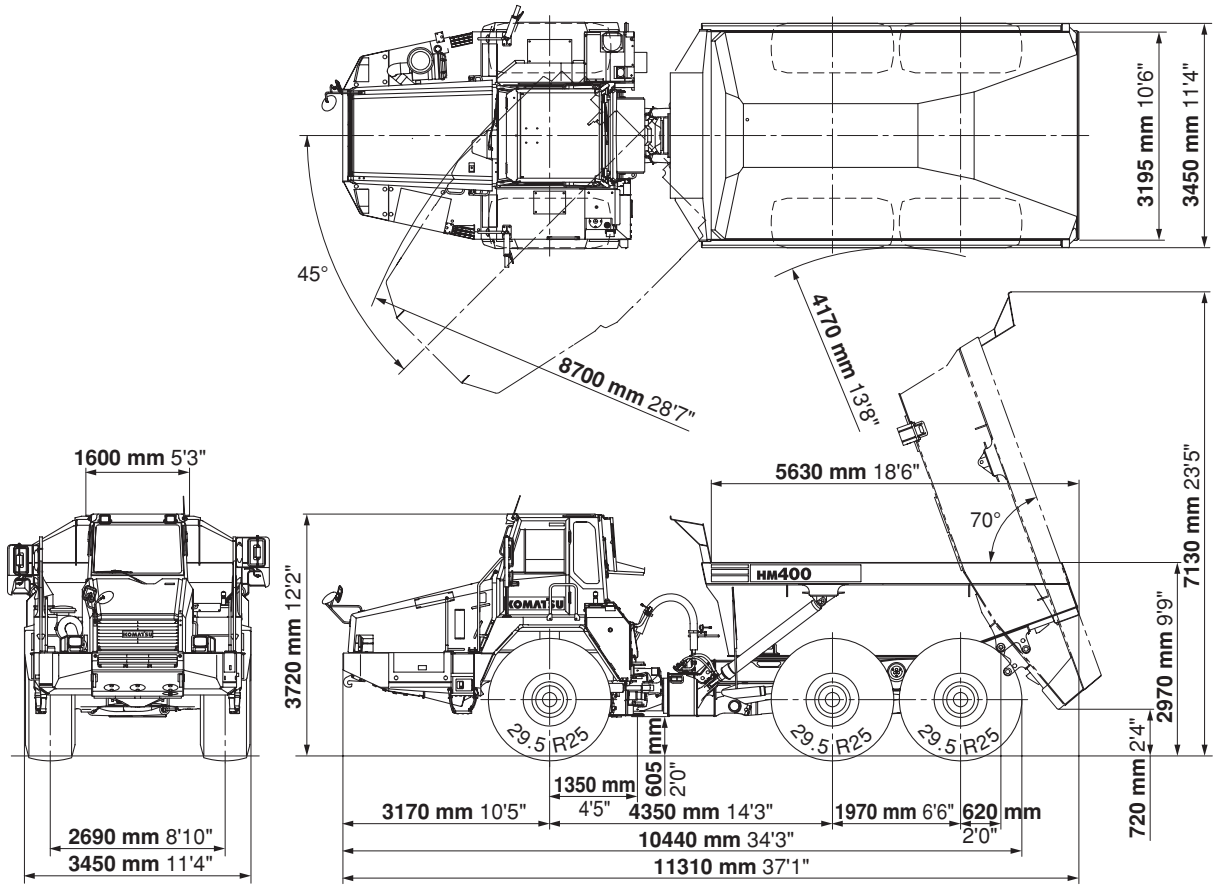
Standard tire	29.5 R25
---------------	----------



## SERVICE REFILL CAPACITIES

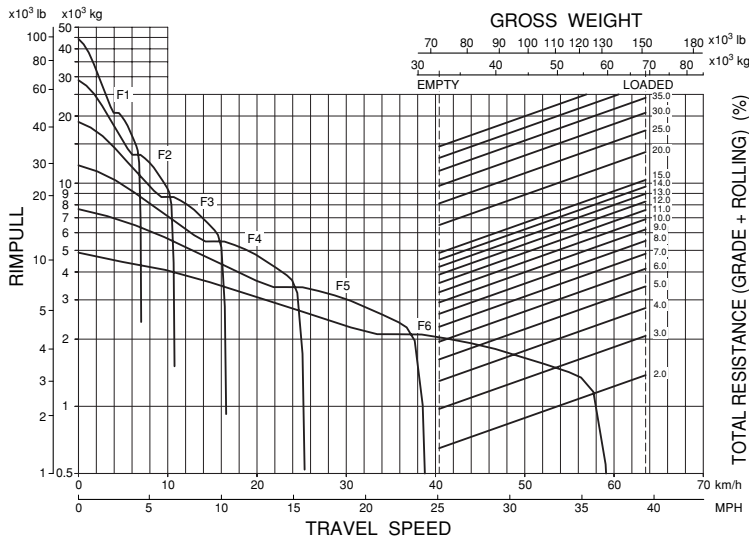
Fuel tank	<b>493 ltr.</b> 130.3 U.S. Gal
Engine oil	<b>50 ltr.</b> 13.2 U.S. Gal
Torque converter, transmission and retarder cooling	<b>115 ltr.</b> 30.4 U.S. Gal
Differentials (total)	<b>97 ltr.</b> 25.6 U.S. Gal
Final drives (total)	<b>32 ltr.</b> 8.7 U.S. Gal
Hydraulic system	<b>180 ltr.</b> 47.6 U.S. Gal
Suspension (total)	<b>20.4 ltr.</b> 5.4 U.S. Gal

# HM400-2 ARTICULATED DUMP TRUCK

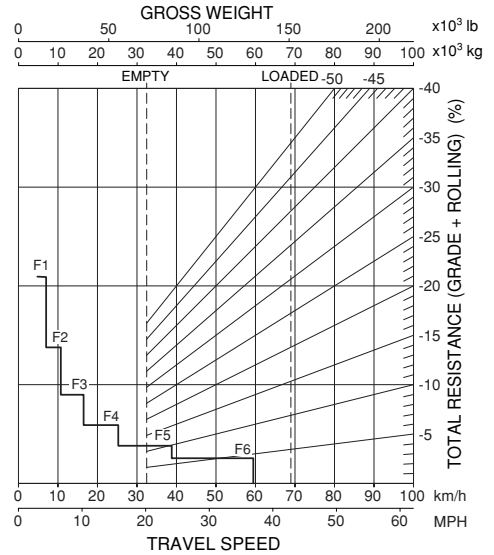


## TRAVEL PERFORMANCE

## BRAKE PERFORMANCE



### GRADE DISTANCE : CONTINUOUS DESCENT





## STANDARD EQUIPMENT FOR BASE MACHINE

**ENGINE:**

- Alternator, 60A/24V
- Batteries, 2 x 12V/136Ah
- Engine, Komatsu SAA6D140E-5
- Exhaust muffler
- Starting motor, 1 x 11.0 kW

**CAB:**

- Air conditioner
- Ashtray
- Cigarette lighter
- Cup holder
- Electronic maintenance display/monitoring system
- Heated rear window
- Operator seat, reclining, air suspension type with retractable **78 mm 3"** width seat belt
- Passenger seat with retractable seat belt
- Power window (L.H)
- Space for lunch box
- Steering wheel, tilt and telescopic
- Sun visor, front window
- Tiltable ROPS cab with FOPS, sound suppression type
- Two doors, left and right

**LIGHTING SYSTEM:**

- Back-up light
- Hazard lights
- Headlights with dimmer switch
- Indicator, stop and tail lights

**GUARD AND COVERS:**

- Engine underguard
- Exhaust muffler thermal guard
- Fire prevention covers
- Propeller shaft guards, front and rear
- Transmission underguard

**SAFETY EQUIPMENT:**

- Alarm, backup
- Anti-slip material on fenders
- Automatic supplementary steering
- Coolant temperature alarm and light
- Hand rails for platform
- Horn, electric
- Ladders, left and right hand side
- Protective grille for rear window
- Rearview mirrors
- Steering joint locking assembly
- Under view mirrors

**BODY:**

- Electronic hoist control system

**TIRES:**

- 29.5 R25

**OTHER:**

- Centralized greasing
- Differential locks in all axles, clutch type
- Electric circuit breaker, 24V
- Mud guards
- Side marker



## OPTIONAL EQUIPMENT

**CAB:**

- Power window (R.H)
- Radio, AM/FM
- Radio, AM/FM with cassette

**BODY:**

- Body exhaust heating kit
- Body liner
- Rock body
- Tail gate, wire type
- Upper side extension, **200 mm 8"**

**LIGHTING SYSTEM:**

- Back work lights, left and right side
- Fog lights
- Yellow beacon

**SAFETY:**

- Rear view camera and monitor

**OTHER:**

- Alternator, 75A/24V
- Auto Retarder with Accelerator Control (ARAC)
- Fire extinguisher
- Gas charge tool
- Spare parts for first service
- Tool kit
- Vandalism protection

Standard equipment may vary for each country, and this specification sheet may contain attachments and optional equipment that are not available in your area. Please consult your Komatsu distributor for detailed information.

[www.Komatsu.com](http://www.Komatsu.com)

Printed in Japan 201302 IP.AD

The image shows the Komatsu logo, which consists of the word "KOMATSU" in a bold, blue, sans-serif font. A registered trademark symbol (®) is located to the upper right of the letter "U". The logo is positioned in the top-left corner of a large, empty rectangular box that occupies the lower half of the page.