HM400-3R

HORSEPOWER
Gross: 338 kW 453 HP/2000min⁻¹
Net: 334 kW 448 HP/2000min⁻¹

MAXIMUM PAYLOAD
40 metric tons

BODY CAPACITY (Heaped 2:1, SAE)
24.0 m³
PERFORMANCE

- Increased body capacity and box section frame structure
- Low fuel consumption
- Payload meter (optional)
- Komatsu Traction Control System (KTCS)
- Komatsu technology - High performance Komatsu SAA6D140E-5 engine
- Komatsu designed electronically controlled countershaft transmission
- Increased cooling capacity and new arrangement of cooling system
- Engine power mode selection system

SAFETY

- All-around visibility
- Supplementary steering and secondary brakes
- Hydraulically controlled wet multiple-disc brakes and retarder
- Secondary engine shutdown switch
- Built-in ROPS/FOPS cab
- Round halogen head lamps and optional fog lamps
- Battery disconnect switch
- Access safety

OPERATOR ENVIRONMENT

- Air suspension seat
- Foldable passenger seat
- Tilt-away steering column
- Low noise
- Two DC12V electrical outlets
- Viscous cab mounts
- Electronic hoist control lever
- Hydro-pneumatic suspension

INFORMATION & COMMUNICATION TECHNOLOGY (ICT)

- LCD unit
- The energy saving operation is supported by "ECO guidance" in real time.
- ECO guidance
- Energy saving operation guide & report

KOMTRAX

- Energy Saving Operation Report
- Equipment Management Support
- Optimal Strategy for Efficient Work

EASY MAINTENANCE

- Ground access to the filters
- Easy draining of transmission oil
- Fan reverse mode
- Disc wheels (Flage type rims)
- Round design engine hood and grille
- Tiltable cab
- Improved hitch height above the ground

HM400-3R

**HORSEPOWER**

- Gross: 338 kW 453 HP/2000min⁻¹
- Net: 334 kW 448 HP/2000min⁻¹

**MAXIMUM GVW** 74005 kg
Increased body capacity and box section frame structure

Increased the payload to 40.0 metric tons by increasing the body capacity. The HM400-3R has the 24.0 m³ heaped capacity body. The low loading height of 3164 mm 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. HM400-3R’s frame is designed using a rigid box structure used high tensile strength steel, and rugged enough for the toughest jobs.

Low fuel consumption

New variable displacement piston pump for reducing Power Take Off (PTO) pressure loss, improvements in transmission and axles for increasing energy saving, and the sophisticated electronic control of the engine operation to achieve optimal energy efficiency, all combined.

Payload meter (PLM) (optional)

PLM allows the production volume and the working conditions of the dump truck to be analyzed directly via a personal computer. The PLM data can be downloaded directly from HM400-3R to your PC by connecting the cable. The following PLM data are transmitted by KOMTRAX, and you can check them on the web.

- Carried load
- Cycle count
- Overload count (daily/monthly)

The loaded weight is indicated on the payload display (in the LCD unit) and the external display lamp while loading.

Fuel consumption maximum 14.0% reduction

* Compared with the HM400-2R. Fuel consumption varies depending on job conditions.
Komatsu Traction Control System (KTCS)

Komatsu has developed various shoe/wheel slip control technologies including traction control system in bulldozers, Automatic Spin Regulator (ASR) for rigid type off-highway dump trucks, etc. These technologies are combined and upgraded to the evolutionally-advanced traction control system for articulated dump trucks.

KTCS allows easy traveling on soft ground and slippery road only by operating the accelerator. This also provides much better turning performance than the conventional differential lock-up or the Limited Slip Differential (LSD).
Komatsu technology

Komatsu develops and produces all major components such as engines, electronic and hydraulic components, in house. With this “Komatsu technology,” and by adding customer’s feedback, Komatsu is achieving great advancement in technology. To achieve both high productivity and economical performance, Komatsu has developed the main components with a total control system, resulting in a new generation machines with high performance and environmental friendliness.

High performance Komatsu SAA6D140E-5 engine

Powerful turbocharged and air-to-air aftercooled Komatsu SAA6D140E-5 engine provides 338 kW 453 HP. This engine realizes high power with low fuel consumption by Common Rail Injection system, and thus it delivers higher travel speeds with high horsepower. In addition, high torque at low speed, impressive acceleration, and low fuel consumption ensure maximum productivity. This engine is EPA Tier 2 and EU Stage 2 emissions equivalent.

Komatsu designed electronically controlled countershaft transmission

The Komatsu designed electronically controlled transmission called Komatsu Advance Transmission with Optimum Modulation Control System (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 the transmission by monitoring the vehicle conditions. This high technology system assures smooth shifts without shock and maximizes the power train life.
Increased cooling capacity and new arrangement of cooling system

The arrangement of the cooling system is redesigned and the hydraulic driven cooling fans provide an air flow rate enough for the engine heat dissipation.

Separately installed Charge Air Cooler
Charge Air Cooler (Aftercooler) positioned facing to the radiator is now installed separately from radiator, allowing the cooling system to increase its cooling capacity without increasing the size of radiator.

Disuse of noise reduction unit
Hydraulic fan and optimal design of the fan and related parts realize low noise and short nose of machine (compared to HM400-2R) as well.

Hydraulic driven cooling fans
On-demand control of the hydraulic fan according to the temperatures of coolant, brake oil, etc. minimizes the engine power loss.
The fan speed is automatically set to its maximum when brake is applied, improving brake cooling capacity.

Optimal design of fan and related parts
Tip clearances and fan/shroud overlapping are optimized to increase air flow.

Engine power mode selection system

<Power mode> or <Economy mode> is selectable according to each working condition.
The mode is easily selected by 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 suitable for higher production and/or uphill-hauling.

Economy mode
Engine speeds of the maximum output, downshift, and upshift are set to lower levels. It is suitable for light work on flat ground.
All-around visibility

Short nose
New layout of the cooling system allows for a shorter nose shape compared to the previous model increasing the field of view to the operator.

Wide and balanced view
The operator’s seat placed at the center of the cab provides wide and balanced view to the right and left.

Round under-mirror
The new round under-mirror provides a wider field of vision.

Supplementary steering and secondary brakes
The supplementary steering system has a self check function. Supplementary steering and secondary brakes are standard features.
Steering: ISO 5010, SAE J1511
Brakes: ISO 3450

Hydraulically controlled wet multiple-disc brakes and retarder
Wet multiple-disc brakes with proven performance on rigid dump trucks are tailored for use in the HM400-3R. 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): 510 kW 684 HP

Secondary engine shutdown switch
New engine stop switch added in the cab for emergency use.
**Built-in ROPS/FOPS cab**

These structures conform to ROPS (ISO 3471) standard, and FOPS (ISO 3449) standard.

**Round halogen head lamps and optional fog lamps**

Round halogen lamps are used for the head lamps. They are incorporated in the engine hood to give a sense of unity.

**Access safety**

A spike type hubbly-faced antiskid plate is used for boarding the HM400-3R. A guard rail around the engine hood has been added.

**Battery disconnect switch**

For machine service work a battery disconnect switch is standard on the HM400-3R.
Ergonomic comfort

Ergonomically designed round dashboard is incorporated. Switches are so arranged that they are easy to reach.

Air suspension seat

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.

Foldable passenger seat

The cushion and the back rest of the passenger seat are foldable. Folding the cushion allows the operator to come in and out of the cab and allows easy access to the recirculation filter of the air conditioner. Folding the backrest allows access to the glove compartment at the rear of the seat.

Tilt-away steering column

The tiltable steering column and telescopic steering wheel allows the operator to set the steering wheel to the desired position. The tilt mechanism is spring-assist type for easy access to the operator's seat.
New hydraulically driven fans and redesigned layout of the cooling system achieve a low noise level.

**Operator’s ear noise (ISO6396)** 72 dB (A)

**Two DC12V electrical outlets**

Two DC12 volt outlets are included as standard in the operators cabin. A 12 volt cigarette lighter is on front of the right console and an additional 12 volt outlet is located at right side behind the operator seat.

**Viscous cab mounts**

Viscous mounts reduce the noise transmitted to the cab and achieve a quiet noise level.

**Electronic hoist control lever**

The control lever is short in travel and can be operated with a light effort. “Kick-out function” provided for the lever facilitates the hoist operation, eliminating a need to hold the lever in “raise” position. Furthermore, body seating shock is significantly reduced because a sensor detects the body just before seating on the frame and reduces the lowering speed.

**Hydro-pneumatic suspension**

Hydro-pneumatic suspension with proven performance in rigid trucks is tailored for use in the HM400-3R. The front hydro-pneumatic suspensions are employed on the front axle which is supported by “De Dion” type trailing arm, allowing the machine to ride more smoothly over bumps. The rear-axles are mounted on dynamic equalizer structures equipped with hydro-pneumatic suspensions. The entire vehicle’s suspension system delivers a comfortable ride and maximizes productivity.
Machine Monitor

The machine monitor displays various machine information and allows for various settings of the machine. A 7-inch color Liquid Crystal Display (LCD) unit displays maintenance information, operation records, ECO guidance records, etc. The switch panel is used to change LCD unit screens and to control the air conditioner. By using the switch panel, you can display various user menus on the LCD unit screen and perform the settings of the machine.

The LCD unit has wider display area than that of the previous model and uses color LCD, it displays more information and is easy to read.

1. **ECO guidance**
   - Operation records
   - ECO guidance records
   - Average fuel consumption logs
   - Configurations

2. **Machine setting / information**
   - Radiator fan reverse mode
   - Change Air Cooler fan reverse mode
   - TCS setting etc.

3. **Maintenance**
   - Check and reset of various maintenance times

4. **Monitor setting**
   - 14 Languages
   - Rear view monitor setting
   - Measurement unit setting
   - Screen brightness adjustment etc.
Energy Saving Operation

The energy saving operation is supported by "ECO guidance" in real time.

This new model is equipped with advanced Information and Communication Technology (ICT) devices such as multiple-purpose color monitor panel which provides the operator with energy saving machine operation guidance.

The operator can check the operation records, ECO guidance records, and fuel consumption logs. The operation records displays today’s operation status of the machine. The ECO guidance records displays the number of occurrences of each guidance message. During operation, it is requested to reduce the number of occurrences of each guidance message in order to achieve energy-saving operation. The average fuel consumption logs displays a fuel consumption for recent 12 hours (based on service meter reading) and daily fuel consumption in the previous one week by bar charts.

ECO guidance

The ECO guidance function displays the message to promote an energy-saving operation.
For example, if the operator stops the machine for long period of time with the engine idling, a message of “Avoid Excessive Engine Idling” is displayed on the screen.

ECO gauge

The ECO gauge indicates a momentary fuel consumption rate during operation.
Operating the machine by keeping the gauge within the green zone leads to an energy-saving operation.
* Fuel consumption rate depends on the work load and accelerator pedal operation.
KOMTRAX delivers the energy-saving operation report based on the operating information such as fuel consumption, load summary, and idling time, which helps you efficiently run a business.

The detailed information that KOMTRAX puts at your fingertips helps you manage your fleet conveniently on the web anytime, anywhere. It gives you the power to make better daily and long-term strategic decisions.

The Komatsu remote monitoring and management technology provides insightful data about your equipment and fleet in user-friendly format.

Through the web application, a variety of search parameters are available to quickly find information about specific machines based on key factors. Moreover, KOMTRAX finds out machines with problems from your fleet and shows you through an optimal interface.

The report contents and data depend on the machine model.
**EASY MAINTENANCE**

**Ground access to the filters**

The oil filters of the transmission and the brake systems are located on the right side, allowing servicing from the ground.

**Easy draining of transmission oil**

Two drain ports are added to facilitate draining of the oil in the piping.

**Fan reverse mode**

The radiator fan or Charge Air Cooler fan is driven hydraulically. You can reverse the rotation of the radiator fan or Charge Air Cooler fan to blow off dirt and dust accumulated on respective cores. Fan reverse mode can be controlled through the monitor.

**Disc wheels (Flange type rims)**

Disc wheels (Flange type rims) provide easy removal/installation of the tires.

**Round design engine hood and grille**

The engine hood design is completely changed. The lightweight resin hood is easy to open and close. The Charge Air Cooler cover is also made of resin.

**Tiltable cab**

The cab be tilted rearward by 32 degrees to provide easy maintenance/service of the engine and the transmission. Electrically operate cab tilt is available. (Optional)

**Improved hitch height above the ground**

The bottom face of the hitch is higher than the bottom face of the differential gear of the front axle. The distance between the bottom face of the hitch and ground is 710 mm.
Komatsu Total Support

To keep your machine available and minimize operation cost when you need it, Komatsu Distributor is ready to provide a variety of supports before and after procuring the machine.

Fleet recommendation
Komatsu Distributor can study the customer’s job site and provide the most optimum fleet recommendation with detailed information to meet all of your application needs when you are considering to buy new machines or replace the existing ones from Komatsu.

Technical support
Komatsu product support service (Technical support) is designed to help customer. Komatsu Distributor offers a variety of effective services to show how much Komatsu is dedicated to the maintenance and support of Komatsu machine.
• Preventive Maintenance (PM) clinic
• Oil & Wear analysis program

Repair & maintenance service
Komatsu Distributor offers quality repair and maintenance service to the customer, utilizing and promoting Komatsu developed programs.

Komatsu Reman (Remanufactured) components
Komatsu Reman products are the result of the implementation of the Komatsu global policy which establishes and agrees to reduce the owning, operating and total Life Cycle Costs (LCC) to Komatsu’s customer through high quality, prompt delivery and competitively priced in own remanufactured products (QDC).

Product support
Komatsu Distributor gives the proactive support and secures the quality of the machinery that will be delivered.

Parts availability
Komatsu Distributor is available for emergency inquiry by the customers for genuine, quality guaranteed Komatsu parts.
## SPECIFICATIONS

### ENGINE
- Model: Komatsu SAA6D140E-5
- Type: Water-cooled, 4-cycle
- Number of cylinders: 6
- Bore: 140 mm
- Stroke: 165 mm
- Piston displacement: 15.24 L
- Rated rpm: 2000 min⁻¹
- Fuel system: Direct injection
- Governor: Electronically controlled
- Lubrication system: Gear pump, force-lubrication
- Filter: Full-flow type
- Air cleaner: Dry type with double elements and precleaner, plus dust indicator

*Net horsepower at the maximum speed of radiator cooling fan is 307 kW (411 HP)*

EPA Tier 2 and EU Stage 2 emissions equivalent.

### 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: 56.0 km/h

### AXLES
- Full time all wheel drive
- Final drive type: Planetary gear
- Ratios:
  - Differential: 3.727
  - Final drive: 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
- Standard: ISO5010, SAE J1511
- Minimum turning radius, wall to wall: 8.80 m
- Articulation angle: 45° each direction

### BRAKES
- Service brakes: Full-hydraulic control, oil-cooled multiple-disc type on front and center axles
- Standard: ISO3450
- 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: 18.2 m³
  - Heaped (2:1, SAE): 24.0 m³
- Payload: 40.0 metric tons
- Material: 130 kg/mm² high tensile strength steel
- Material thickness:
  - Bottom: 16 mm
  - Front: 8 mm
  - Sides: 12 mm
- Target area
  - (inside length x width): 5667 mm x 3194 mm
- Heating: Exhaust heating (optional)

### HYDRAULIC SYSTEM
- Hoist cylinder: Twin, telescopic type
- Relief pressure: 28.4 MPa 290 kg/cm²
- Hoist time: 12 s

### CAB
- Comply with ISO 3471 ROPS (Roll-Over Protective Structure) standard, and ISO 3449 FOPS (Falling Objects Protective Structure : Level II) standard.

### WEIGHT (APPROXIMATE)
- Empty weight: 33925 kg
- Gross vehicle weight: 74005 kg
- Weight distribution:
  - Empty: Front axle: 56.7%, Center axle: 23.2%, Rear axle: 20.1%
  - Loaded: Front axle: 29.3%, Center axle: 35.4%, Rear axle: 35.3%

### TIRES
- Standard tire: 29.5 R25

### SERVICE REFILL CAPACITIES
- Fuel tank: 518 L
- Engine oil: 50 L
- Torque converter, transmission and retarder cooling:
  - Total: 125 L
  - Differentials (total): 108 L
  - Final drives (total): 32 L
  - Hydraulic system: 167 L
  - Suspension (total): 20.4 L
### STANDARD EQUIPMENT FOR BASE MACHINE

**ENGINE:**
- Alternator, 24 V/75 A
- Batteries, 2 x 12 V/160 Ah
- Engine, Komatsu SAA6D140E-5
- Starting motor, 11.0 kW

**LIGHTING SYSTEM:**
- Back-up lamp
- Back work lamps, LH and RH side
- Hazard lamps
- Head lamps (High/Low)
- Stop, tail and turn signal lamps

**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 lamp
- Guard rails
- Horn, electric
- Komatsu Traction Control System (KTCS)
- Parking brake
- Protective grille for rear window
- Rearview mirrors
- Secondary brake
- Secondary engine shutdown switch

### OPTIONAL EQUIPMENT

**BODY:**
- Body exhaust heating
- Body liner
- Overhung tail gate, wire type
- Upper side extension, 200 mm

**CAB**
- AM/FM radio

**LIGHTING SYSTEM:**
- Fog lamps
- Side lamps
- Stop, tail and turn signal lamps (LED)
- Yellow beacon

**OTHER:**
- Automatic Retarder with Acceleration Control (ARAC)
- Color rear view monitor and camera
- Fast fill coupler for fuel tank

- Filler cap lock and cover lock
- Fire extinguisher
- Gas charge tool
- Payload meter and lamp
- Power cab tilt
- Precleaner turbo II
- Sandy and dusty area arrangement
- Spare parts for first service
- Tool kit

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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.