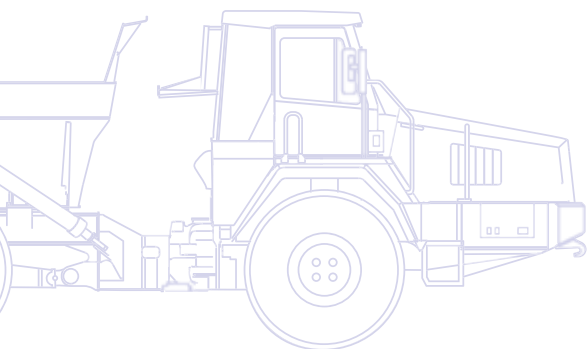


KOMATSU

HM
400



Articulated Dump Truck **HM400-2**



ENGINE POWER
338 kW / 453 HP @ 2.000 rpm

MAX. PAYLOAD
36,5 ton

BODY CAPACITY, HEAPED
22,3 m³

Walk-Around

The latest Komatsu technology and components combine to put the HM400-2 articulated dump truck in a class of its own. A powerful ecot3 Komatsu engine offers maximum productivity and fast travel speeds while several original features help to further enhance efficiency and reduce maintenance costs. With a robust exterior and state of the art solutions for its suspension and retarder systems, the HM400-2 is a machine that is built to last.

First-class operator comfort

- Wide, spacious cab
- Unique hydro-pneumatic trailing arm suspension
- Easy-to-use controls
- Low operating noise levels
- Double doors and power window



Easy maintenance

- Tilting cab
- Centralized grease points
- Maintenance-free oscillating hitch
- Maintenance-free brakes
- Ground level battery access

HM400-2

ENGINE POWER

338 kW / 453 HP @ 2.000 rpm

MAX. PAYLOAD

36,5 ton

BODY CAPACITY, HEAPED

22,3 m³

High productivity and efficiency

- High-torque and low-consumption ecot3 Komatsu engine
- Automatic traction control with limited slip differentials
- Wide tyres (optional)
- Selectable power mode



Excellent durability

- Lowest brake maintenance cost
- Sealed multi-disc, oil-cooled brake system
- Reliable Komatsu-manufactured major components
- K-ATOMiCS transmission with "Shift-lock" function



Highest safety standards

- Secure platform access to cab and maintenance areas
- Excellent all-round visibility
- Emergency steering and secondary brakes
- Rear frame tip-over protection
- Highly responsive retarder

KOMTRAX

Komatsu Satellite
Monitoring System

High Productivity and Efficiency

Powerful and efficient ecot3 engine

Certified for EPA Tier III and EU Stage IIIA emission regulations, the Komatsu SAA6D140E-5 “ecot3” engine provides high torque, a better performance at slow speeds and low fuel consumption. It features a new design for the combustion chamber with an optimised ignition and combustion timing. For increased fuel efficiency, the operating pressure of the new common rail system also ensures optimal injection, and the air-to-air inter-cooler reduces the temperature of the compressed air supplied by the turbo charger to the cylinders.

Komatsu-designed differential locking systems

The full-time six-wheel drive system uses a wet multiple-disc interaxle clutch that locks the three axles in unison for greater traction. The interaxle lock can be switched to manual or automatic while the truck is travelling, ensuring uninterrupted productivity. In combination with the limited slip differentials, the system provides an ideal solution to tyre slip, and automatically regulates the traction according to ground conditions.

Articulated steering

Fully hydraulic and articulated steering offers low-effort operating and great manoeuvrability. A minimum turning radius of only 8,70 m makes it easy to work in tight areas.

Engine power mode selection

Sometimes extra power is required to get the job done, and the HM400-2 lets the operator quickly react to severe operating conditions. The perfect working mode is easily selected between “High-power” or “Economy”, by simply flipping a switch in the operator’s cab.

- High-power mode

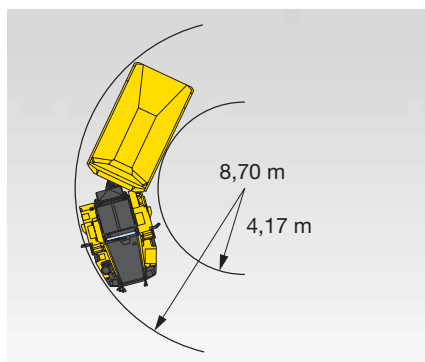
For use on high production job sites or when uphill hauls are required. Take full advantage of this high output power mode and enjoy greater productivity and reduced cycle times.

- Economy mode

For work under normal conditions. The fastest engine speed for maximum output, downshift, and upshift is set lower.

Large capacity body and box section frame structure

With a payload of 36,5 tonnes, the HM400-2’s body capacity is among the highest for a truck in this class. A loading height of only 2.970 mm enables easy loading, lowers the centre of gravity and maintains a high ground clearance. The body is made of high-strength and wear-resistant steel, with a Brinell hardness of 400. Its shape provides excellent durability and load stability. Rugged enough for the toughest jobs, the HM400-2’s frame is designed with a rigid box structure and connecting torque tubes made of high strength low alloy steel.





Body options

To further enhance productivity, Komatsu offers several body options: for lower density materials, side extensions will increase the body capacity. To avoid sand or gravel spillage on steeper grades, an overhung tailgate is available. Body heating can be used to keep some materials from sticking, and tough wear plate can be installed when loading shot rock.



First-Class Operator Comfort

Wide and comfortable cab

The wide cab with user-friendly controls provides a spacious and comfortable working environment. A fully adjustable air-suspension seat dampens vibrations, holds the operator safe, and reduces the fatigue of long shifts. Plenty of room is left for an extra full-size trainer's seat. Large front and electric side windows ensure superior visibility and increased operator confidence, while an electric heated rear window facilitates defrosting and speeds the start-up of operations.

Steering wheel and pedals

A tilting, telescopic steering column helps to maintain an optimal driving position at all times. Low effort pedals reduce operator fatigue when working continuously for long periods.

Low noise levels

To reduce the noise levels, the cab is mounted on viscous dampeners. Further noise reduction is achieved by the integrated cab floor: it makes the cab air-tight and seals off the engine compartment. A low-noise and sound-insulated muffler / exhaust pipe also helps to bring the sound levels way down.

Easy-to-see instrument panel

It's easy to monitor all critical machine functions on the instrument panel, and a caution light will warn the operator should a problem arise. This Komatsu on-board monitoring system makes the machine user-friendly and simple to service.

Electric body dump control lever

The low-effort lever makes dumping easier than ever, and a standard dump counter keeps track of the total daily production.

Unique hydro-pneumatic suspension

On both the front and rear axles, Komatsu's unique trailing arm hydro-pneumatic suspension gives the HM400-2 a smooth ride with reduced pitching and excellent driving comfort. Less shocks to the operator and to the machine components - and less spilled material - also result in increased durability, comfort, and productivity.





Excellent Durability

Market leading Komatsu design

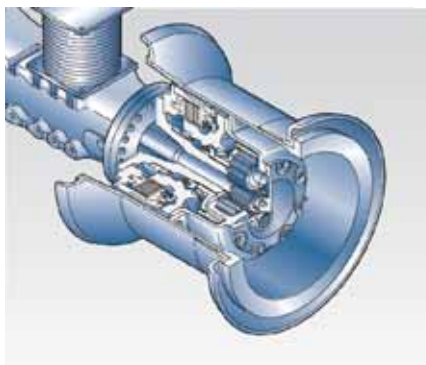
Made from Komatsu manufactured components that successfully prove their durability day after day, the top-selling HM400-2 sets the mould for all other Komatsu ADTs. The entire power train is Komatsu-designed and the engine, transmission and axles are perfectly matched for unsurpassed productivity and durability.

K-ATOMiCS transmission

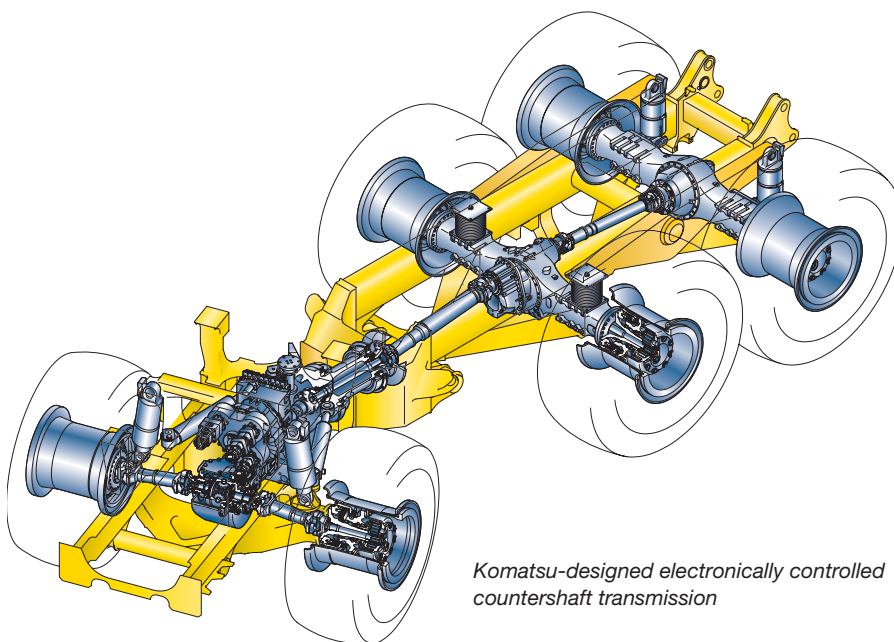
K-ATOMiCS, Komatsu's exclusive electronically controlled transmission is perfectly tuned for the HM400-2. The electronic clutch modulation system ensures proper pressure when the clutch is engaged. The "total control system" manages both the engine and transmission by monitoring the vehicle's condition. This Komatsu-designed technology guarantees smooth shifting and maximises transmission life.

Lowest brake maintenance cost

No other manufacturer offers wet disc brakes on all its ADTs, and the Komatsu HM400-2 is no exception. No matter how abrasive the application, there is no need to worry about early replacement of the brake disc packs of its forced oil-cooled wet disc brakes. Embedded in an oil bath and sealed off from the environment, brakes on the HM400-2 have an exceptionally long overhaul period that can go over 10.000 hours - and they can last a lifetime.



Hydraulically controlled wet multi-disc brakes and retarder



Komatsu-designed electronically controlled countershaft transmission





Easy Maintenance

Extended service intervals

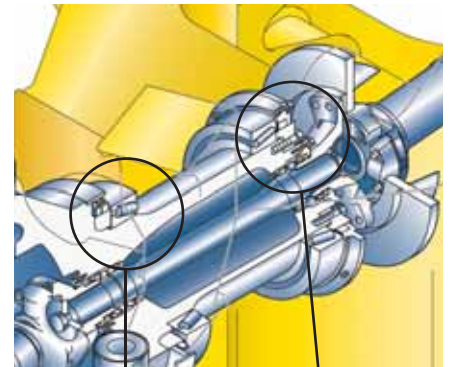
Service intervals have been extended:

- Engine oil 500 hours
- Transmission oil 1.000 hours
- Engine oil filter 500 hours
- Transmission oil filters 1.000 hours



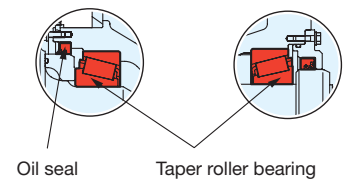
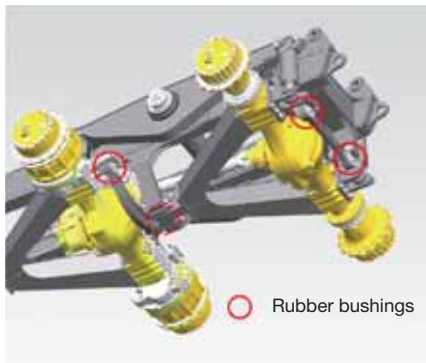
Remote centralised greasing

With maintenance-free rubber bushings and an oscillating hitch, grease points have been minimized and centralized for remote greasing at ground level.



Maintenance-free oscillating hitch

Lubricated once and for all, the oscillating hitch is completely maintenance-free.



Tilting cab

The cab can be tilted rearward 36 degrees to provide easy maintenance and service to the engine and transmission.





Highest Safety Standards

Hydraulically controlled wet multiple-disc brakes and retarder

Wet multiple-disc brakes with proven performance in larger articulated and rigid trucks are tailored for use in the HM400-2. The large-capacity, continuously cooled, wet-multiple disc brakes also function as a highly responsive retarder that gives the operator greater confidence at higher speeds when travelling downhill. (Retarder absorbing capacity, continuous descent: 472 kW 633 HP)

Supplementary steering and secondary brakes

Supplementary steering and secondary brakes are standard features. They help to guarantee operator safety in emergency situations.

Steering

ISO 5010-1992, SAE J1511

Brakes

ISO 3450-1996, SAE J1473

Excellent all-round visibility

To keep the working area under control, a laminated-glass windshield, wide side windows, a standard rear-view camera and monitor, 3 additional under-view mirrors and 4 rear-view mirrors minimise blind spots.

Built-in ROPS/FOPS

These structures conform to ISO 3471 and SAE J1040-1988c standards.

Safe access

Operators can enter the machine easily and safely with a secure access from the platform to the double door cab. The access steps are located on the front of the machine, away from the potentially hazardous articulation.

Rear frame inclination sensor

To avoid personal and machine damage, this system warns the operator if there is a risk of body tip over.



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



Komatsu Satellite Monitoring System



KOMTRAX™ is a revolutionary machine tracking system designed to save you time and money. You can now monitor your equipment anytime and anywhere. Use valuable machine data received via the KOMTRAX™ web site to optimise your maintenance planning and machine performances.

KOMTRAX™ can assist you with:

Full machine monitoring

Get detailed operation data to know when your machines are used and how productive they are.

Total Fleet Management

Keep track of the location of your machines at all times and discourage unapproved usage or theft.

Complete machine status

Receive warnings, alerts and cautions, via a web site or by e-mail, to help with maintenance planning and for longer machine life.

For further details on KOMTRAX™, please ask your Komatsu dealer for the latest KOMTRAX™ brochure.





Machine working time - With the “daily working record” chart, get precise engine running time data: when your machine was started and when it was shut down, as well as total engine running time.

Maintenance planning - To increase productivity and improve maintenance planning, alerts indicate when items such as filters or oil must be replaced.



Fleet location - The machine list instantly locates all your machines, even those in other countries.



Machine tracking during transport - When your machine is transported, KOMTRAX™ sends travel messages to the web site or by e-mail to inform you of its progress, and confirms when it reaches its destination.

Alarm notifications - You can receive notification of alarms both via the KOMTRAX™ website and by e-mail.



Added security - The “engine lock” feature allows to program when a machine’s engine can be started. And with “geo-fence”, KOMTRAX™ sends notification every time your machine moves in or out of a predetermined operating area.



Specifications

ENGINE

Model Komatsu SAA6D140E-5
Type Common rail direct injection, water-cooled,
emissionised, turbocharged, after-cooled diesel
Engine power
at rated engine speed 2.000 rpm
ISO 14396 338 kW / 453 HP
ISO 9249 (net engine power) 327 kW / 438 HP
No. of cylinders 6
Bore x stroke 140 x 165 mm
Displacement 15,24 ltr
Max. torque 213 kgf-m
Governor Electronically controlled
Lubricating system Gear pump, force lubrication
Filter Full-flow filter
Air-filter type Dry type with double elements and precleaner
(cyclonpack type), plus dust indicator

TRANSMISSION

Torque converter 3-elements, 1-stage, 2-phase
Transmission Full-automatic, counter-shaft type
Speed range 6 speeds forward and 2 reverse
Lock-up clutch Wet, single-disc clutch
Forward Torque converter drive in 1st gear, direct drive
in 1st lock-up and all higher gears
Reverse Torque converter drive and direct drive in all gears
Shift control Electronic shift control with automatic
clutch modulation in all gears

Max. travel speeds:

Gear	Forward						Reverse	
	1.	2.	3.	4.	5.	6.	1.	2.
km/h	7,3	11,1	17,1	26,1	39,6	58,5	7,4	17,5

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 8,70 m
Articulation angle 45° each direction

SUSPENSION

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

AXLES

Full time all wheel drive with limited slip differential in all axles.
Final drive type Planetary gear
Ratios:
Differential 3,417
Planetary 4,941

BRAKES

Service brakes Full-hydraulic control, oil-cooled
multiple-disc type
Parking brake Spring applied, caliper disc type
Retarder Front and centre 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 16,5 m³
Heaped (2:1, SAE) 22,3 m³
Payload 36,5 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) 5.629 mm x 3.194 mm
Heating Exhaust heating (option)

HYDRAULIC SYSTEM

Hoist cylinder Twin, 2-stage type
Relief pressure 20,6 MPa (210 kg/cm²)
Hoist time 12 sec

CAB

Dimensions comply with ISO 3471 and SAE J1040-1988c ROPS
(Roll-Over Protective Structure) standards.

WEIGHT (APPROX.)

Empty weight.....	32.460 kg
Gross vehicle weight	69.040 kg

Weight distribution

Empty:

Front axle	55,0%
Centre axle.....	22,9%
Rear axle.....	22,1%

Loaded:

Front axle	28,8%
Centre axle.....	35,8%
Rear axle.....	35,4%

TYRES

Standard tyres.....	29.5 R25
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SERVICE REFILL CAPACITIES

Fuel tank.....	493 ltr
Engine oil.....	50 ltr
Torque converter, transmission and retarder cooling	115 ltr
Differentials (total).....	97 ltr
Final drives (total)	32 ltr
Hydraulic system.....	180 ltr
Suspension (total).....	20,4 ltr

ENVIRONMENT

Engine emissions Fully complies with EU Stage IIIA and EPA Tier III exhaust emission regulations

Noise levels

LwA external 110 dB(A) (2000/14/EC Stage II)

LpA operator ear.....76 dB(A) (ISO 6396 dynamic test)

Vibration levels (EN 12096:1997)*

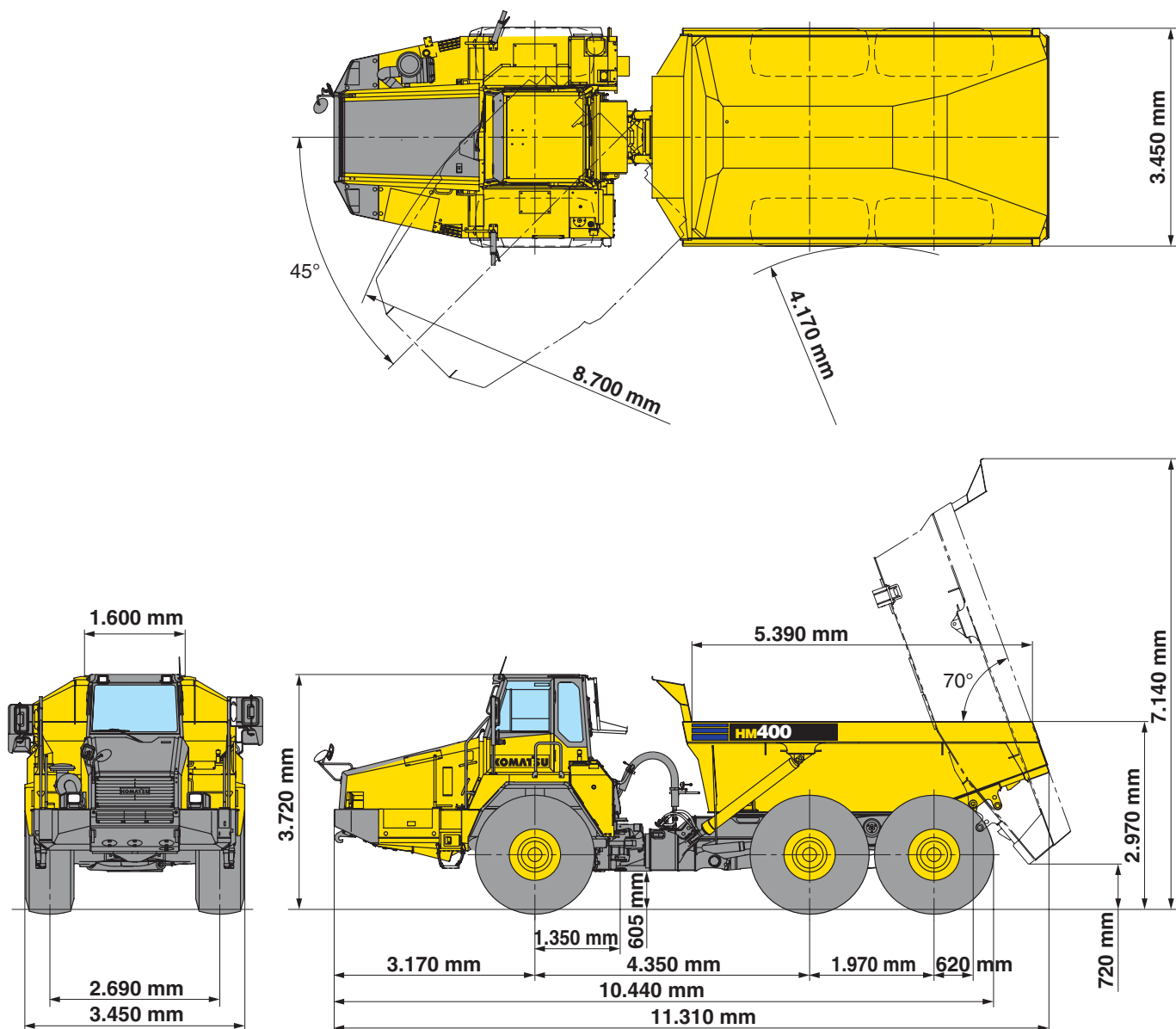
Hand/arm..... $\leq 2,5 \text{ m/s}^2$ (uncertainty $K = 0,57 \text{ m/s}^2$)

Body $\leq 0,5 \text{ m/s}^2$ (uncertainty $K = 0,26 \text{ m/s}^2$)

* for the purpose of risk assessment under directive 2002/44/EC, please refer to ISO/TR 25398:2006.



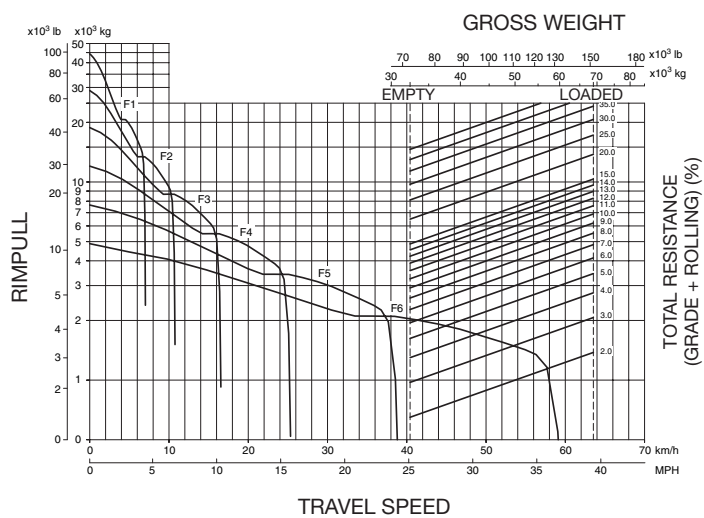
Dimensions & Performance Figures



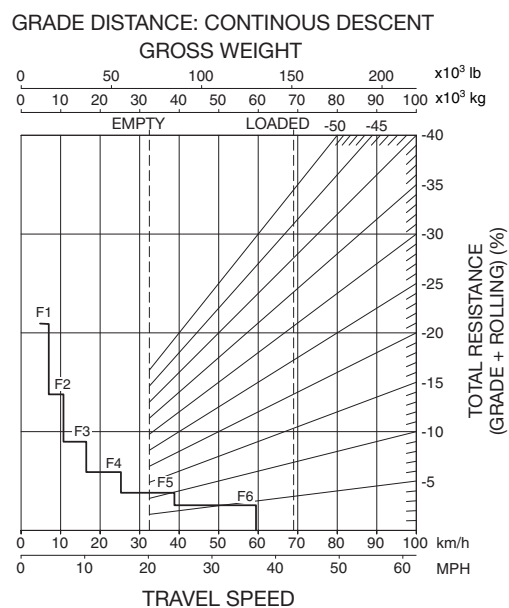
All measurements with tyres 29.5 R25; if equipped with tyres 875/65 R29:
Overall height 3.740 mm, overall width 3.665 mm, tread 2.805 mm



TRAVEL PERFORMANCE



BRAKE PERFORMANCE



Articulated Dump Truck

HM400-2

Standard and Optional Equipment

ENGINE

Komatsu SAA6D140E-5 turbocharged common rail direct injection diesel engine	●
EU Stage IIIA/EPA Tier III compliant	
Exhaust muffler with stack	●
Alternator 75 A/24 V	●
Starter motor 11 kW	●
Batteries 2 × 12 V/136 Ah	●

BODY

Electronic hoist control system	●
Body exhaust heating kit	○
Body liner	○
Tail gate kit, wire type, overall width 2.998 mm	○
Upper side extension, 200 mm	○

AXLES AND TYRES

Limited slip differentials in all axles	●
Tyres 29.5 R25	●
Tyres 875/65 R29	○
25.00 R25 rim for 29.5 R25 tyre	○
27.00 R29 rim for 875/65 R29 tyre	○
Differential locks	○

SERVICE AND MAINTENANCE

Centralized greasing points	●
EMMS (Equipment Management and Monitoring System) with self-diagnostic function and maintenance display	●
KOMTRAX™ - Komatsu satellite monitoring system	●
Toolkit	●
Vandalism protection	●
Gas charge tool for suspension cylinders	○
Fuel tank with fast fill coupler	○

CABIN

Tiltable ROPS/FOPS cab, sound suppression type	●
Two doors, left and right	●
Operator seat, reclining, air suspension type with retractable 78 mm width seat belt	●
Trainer seat	●
Steering wheel, tilt and telescopic	●
Air conditioner	●
Heated rear window	●
Power window (l.h.)	●
Sun visor, front window, driver's side	●
Cigarette lighter, ashtray, cup holder, space for lunch box	●
Body dump counter	●
Power window (r.h.)	○
Radio	○
Cassette-radio	○

SAFETY EQUIPMENT

Back-up alarm	●
Anti-slip material on fenders	●
Automatic supplementary steering	●
Coolant temperature alarm and light	●
Electric circuit breaker, 24 V	●
Hand rails for platform	●
Horn, electric	●
Ladders, left and right hand side	●
Protective grille for rear window	●
Rear-view mirrors	●
Under-view mirrors	●
Steering joint locking assembly	●
Rear-view camera and monitor	●
Wheel blocks	○

LIGHTING SYSTEM

Back-up light	●
Hazard lights	●
Headlights with dimmer switch	●
Indicator, stop and tail lights	●
Side work lights, left and right side	●
Fog lights	○

OTHER EQUIPMENT

Engine underguard	●
Propeller shaft guards, front and rear	●
Transmission underguard	●
Exhaust muffler thermal guard	●
Fire prevention covers	●
Automatic retarder with acceleration control (ARAC)	○

Further equipment on request

- standard equipment
- optional equipment

Your Komatsu partner:

KOMATSU

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