

# KOMATSU

## HD785-8



Off-highway truck

**Engine power**  
895 kW / 1200 HP @ 1900 rpm

**Nominal payload**  
92.2 metric tons

**Body capacity, heaped**  
60 m<sup>3</sup>

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## Productivity on demand

### Powerful and environmentally friendly

- Fuel efficient high performance Komatsu SAA12V140E-7 EU Stage V engine
- Eco-gauge and Eco guidance
- Adjustable auto idle shutdown
- Variable horsepower control (VHPC) with mode selection system

### First-class comfort

- Newly designed spacious, ergonomical cab
- Heated and ventilated air suspension seat
- Low noise level: 72 dB(A)
- High resolution LCD colour monitor
- Hydro-pneumatic suspension

### Reliability & maintenance

- Hydraulically driven, reversible cooling fan
- Modular radiator core system
- High power density axle
- Service center for fast oil & coolant refill
- Centralised greasing points
- Centralised arrangement of filters

### Maximised efficiency

- Komatsu Traction Control System (KTCS)
- Hydraulically controlled wet multiple-disc brakes and retarder
- Auto Retard Speed Control (ARSC)
- K-ATOMiCS transmission with "Skip-Shift" function
- Payload meter (PLM)

### Safety first

- KomVision surround view system
- LED lighting
- Starter & battery disconnect switch
- Machine lockout switch
- Komatsu SpaceCab™ – Built-in ROPS/FOPS
- Integrated stairways with handrails and gentle slope

### Komtrax Plus

- Komatsu Wireless Monitoring System
- Increased operational data and fuel savings



A maintenance program  
for Komatsu customers

# HD785-8



## High performance Komatsu SAA12V140E-7 engine

This engine delivers faster acceleration and higher travel speeds with high horsepower per tonne. Advanced technology, such as High Pressure Common Rail injection system (HPCR), air-to-air aftercooler efficient turbo-charger gives high torque at low speed, impressive acceleration, and low fuel consumption for maximum productivity.

## Komatsu fuel-saving technology

Hydraulic circuits such as brake cooling, steering, body dump control, transmission control etc. are optimised to reduce fuel consumption.

## Anti-pitching 4-wheel oil-cooled multiple disc retarder

With this retarder, the retarding force is shared between four wheels. This reduces the possibility of tire-lock and enables effective use of retarder capacity, for stable downhill travel. Retarding force on front and rear wheels is controlled independently and the truck goes down slopes smoothly and comfortably without pitching.

# Powerful and environmentally friendly



## Komatsu EU Stage V

The Komatsu EU Stage V engine is productive, dependable and efficient. With ultra-low emissions, it provides a lower environmental impact and a superior performance to help reduce operating costs and lets the operator work in complete peace of mind.

## Heavy-duty aftertreatment

The Komatsu Diesel Particulate filters (KDPF) captures more than 90% of Particulate Matter (PM). Special oxidation catalyst and extra fuel injection in the exhaust stream can decompose accumulated soot in the DPF filter by either active or passive regeneration. This system does not interrupt normal operation or require additional action from the driver.



- 1 Komatsu Diesel Particulate Filter (KDPF)
- 2 Variable Geometry Turbo (VGT)
- 3 Exhaust Gas Recirculation (EGR)

### High-Pressure Common Rail (HPCR)

To achieve complete fuel burn and lower exhaust emissions, the heavy-duty High-Pressure Common Rail fuel injection system is computer controlled to deliver a precise quantity of pressurised fuel into the redesigned engine combustion chamber by multiple injections.

### Exhaust Gas Recirculation (EGR)

Cooled EGR is a technology well-proven in current Komatsu engines. The increased capacity of the EGR cooler now ensures very low NOx emissions and a better engine performance.

### Komatsu Closed Crankcase Ventilation (KCCV)

Crankcase emissions (blow-by gas) are passed through a CCV filter. The oil mist trapped in the filter is returned back to the crankcase while the filtered gas is returned to the air intake.

### Variable Geometry Turbo (VGT)

The VGT provides optimal airflow to the engine combustion chamber under all speed and load conditions. Exhaust gas is cleaner, fuel economy is improved while machine power and performance are maintained.



Adjustable auto idle shutdown



Eco-gauge and Eco guidance



Engine power mode selection

## Maximised efficiency



### Payload meter (PLM)

The PLM registers the payload of each hauling cycle and analyses the truck's production volume and working conditions for a specific period. Loaded weight is displayed in real time, both on the cab's monitor and by external display lamps.



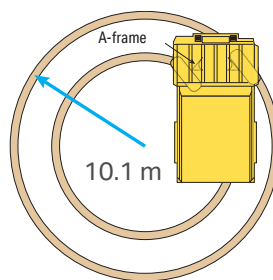
### Komatsu Traction Control System (KTCS)

KTCS continuously monitors the rear wheels' rotating speed and vehicle speed for slippage. In case of excessive wheel slip, the brake is automatically applied, and optimum tire traction is maintained. KTCS activates and deactivates automatically, and improves productivity and tire life more than the conventional ASR system.



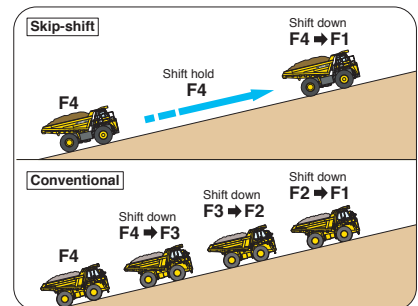
### K-ATOMiCS transmission

K-ATOMiCS is an electronic shift control with automatic clutch modulation in all gears. It optimises oil pressure for the clutch engagement and provides smoother shifting without torque off.



### Small turning radius

The MacPherson strut type front suspension has a special A-frame between each wheel and the main frame. The wider space created between the front wheels and the main frame increases the turning angle of the wheels. The larger this turning angle, the smaller the turning radius of the truck.



### Skip shift function

Automatically selects a gear position depending on the slope grade when driving uphill, without shifting down through each gear. It reduces the number of downshifts, makes driving smoother, improves operator comfort and reduces material spillage.

### Auto Retard Speed Control (ARSC)

ARSC allows to easily set a constant downhill travel speed and lets the operator concentrate on steering. Speed can be adjusted appropriately to the slope grade at an increment of 1 km/h by clicking the control lever ( $\pm 5$  km/h max.).

## Large body

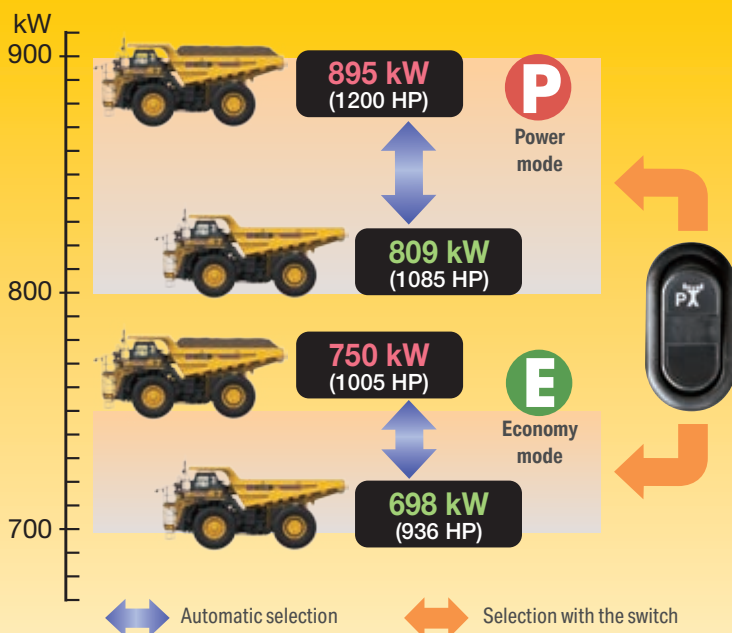
A wide target area makes for easy loading with minimal soil spillage and more efficient hauling.

Heaped capacity: 60.0 m<sup>3</sup>

Target area (inside length × width):  
7065 mm × 5200 mm

## Long wheelbase and wide tread

With an extra-long wheelbase, a wide tread and an exceptionally low center of gravity, the HD785-8 hauls the load at higher speed for greater productivity, and delivers superior driving comfort over rough terrain.



## Variable horsepower control (VHPC) with mode selection system

The variable displacement piston pumps reduce loss of Power Take-Off (PTO). Improvements in hydraulic pressure for transmission control increase energy savings, and the sophisticated electronic control of the engine operation helps to achieve optimal energy efficiency.

Both in Power and Economy modes, the VHPC system detects whether machine condition is loaded or unloaded and selects optimum horsepower setting mode, providing both high production and low fuel consumption.

**Power mode:** Makes best use of the horsepower to attain optimal production. This mode is suitable for operation in job sites including uphill travel with load where powerful hauling is top priority.

**Economy mode:** Sets the maximum horsepower at low level to reduce fuel consumption. The machine maintains sufficient power for economical operation in this mode.

## First-class comfort



### Wide and comfortable cab

The wide Komatsu SpaceCab™ with user-friendly controls provides a comfortable and safe work environment. A fully adjustable air-suspended seat dampens vibrations and reduces the fatigue of long shifts. Large front and electric side windows give a superior visibility and increased confidence.

### Hydro-pneumatic suspension

Komatsu's hydro-pneumatic suspension gives the HD785-8 a smooth ride with reduced pitching and excellent driving comfort. Less shocks for the operator and for the machine components also mean less spilled material and increased durability, comfort and productivity.

### Low-noise design

To reduce 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 helps to bring sound levels way down.



Set the steering wheel to the most comfortable position



The full size trainer seat is foldable and has a 2-point retractable seat belt



Convenient auxiliary input (MP3 jack) and 12 V power supply



### Heated & ventilated air-suspended seat

A high comfort air-suspended seat, with lumbar support and multiple adjustments, ensures operator well-being during the entire work shift. It can be heated and ventilated, for an easy start on cold winter days and a comfortable ride on hot summer days.



## Information & communication technology



### Lower operating costs

Komatsu ICT contributes to the reduction of operating costs by assisting to comfortably and efficiently manage operations. The monitor panel displays instant guidance messages to help promote energy saving, and the Eco-gauge indicates actual fuel consumption. To further improve savings, logs can be consulted for operations, Eco guidance and fuel consumption.

### Large LCD colour monitor

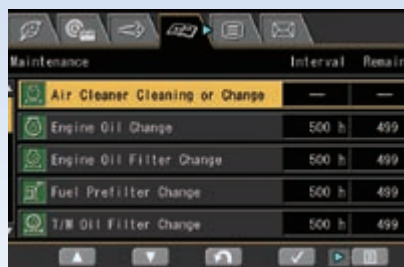
A large user-friendly colour monitor enables safe, accurate and smooth work. Multilingual and with all essential information available at a glance, it features simple and easy-to-operate switches and multifunction keys that provide fingertip access to a wide range of functions and operating information.

### Troubleshooting function

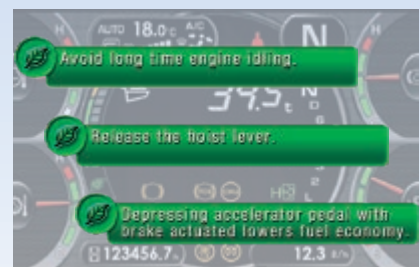
Various meters, gauges and warning functions are centrally arranged on the LCD unit. This unit facilitates the start-up inspection and promptly warns the operator with a lamp and buzzer if any abnormal conditions occur.



Information at a glance: basic dashboard LCD monitor



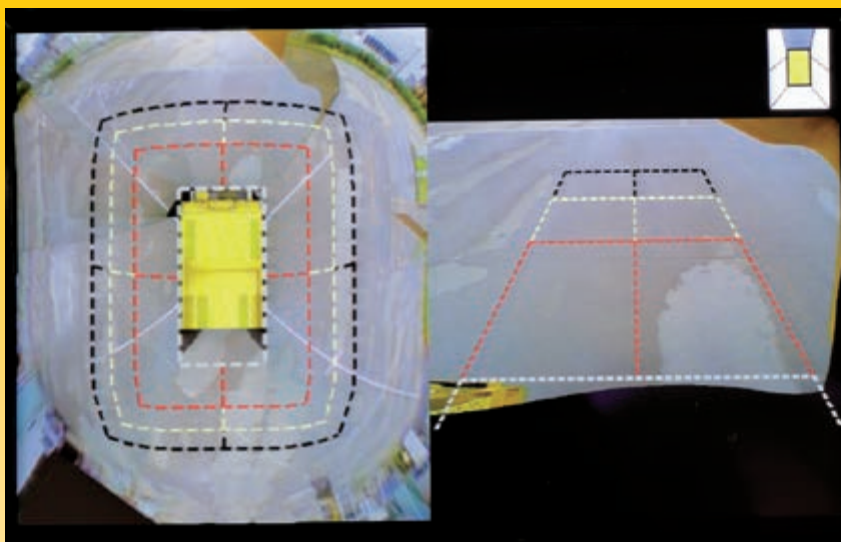
A multifunction monitor displays and controls a wealth of operational and maintenance information



Eco guidance supports energy saving in real time

### KomVision surround view system

With 6 high definition networked cameras fitted on the machine, KomVision provides a crystal clear, real-time bird's eye view of the immediate surroundings on the widescreen cab monitor. The operator can quickly and easily check the machine's vicinity prior to making any movement, and focus on the work at hand even in low light conditions.



KomVision monitor



The separate rear-view monitor can be always on (only when reversing)



KomVision and rear-view system cameras



## Safety first



ROPS/FOPS to ISO 3471 ROPS and ISO 3449 FOPS Level II standard



Excellent all-round visibility



Safe cab access thanks to the low angle of the front stairways with handrails, slip-resistant



### Secondary brake

As an added measure of reliability, a secondary brake is standard. This system is operated by use of the left brake pedal and utilises an independent hydraulic circuit to simultaneously apply the front and rear parking brakes. Conform to: ISO 3450, SAE J1473

### Secondary steering

The secondary steering system is automatically activated if the hydraulic pressure of the steering circuit lowers due to a failure in the hydraulic system. This can also be activated manually by the secondary steering switch in the cab. Conform to: ISO 5010, SAE J1511



### Full LED lighting

LED lighting combines excellent visibility with long service life and energy-savings.

### Antilock brake system (ABS) (optional)

This system prevents the tires from locking when using the service brake and the retarder, thus minimising skidding under slippery conditions.

### Secondary engine shutdown switch

These switches instantly stop the engine. One is installed in the cab, the other at the side of the machine.



### Machine lockout switch

Machine lockout switch invalidates steering cylinders, hoist cylinders and trucks's moving forward or backward when engine is ON.

### Speed limiter

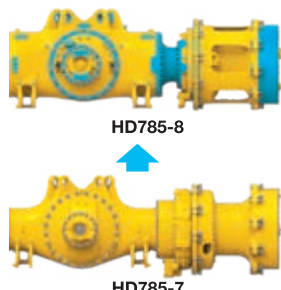
Maximum travel speed is limited independently for both empty and loaded conditions. The optional overload speed limiter limits the maximum travel speed to 15 km/h when the payload exceeds the threshold value.

## Tough and reliable



### High-rigidity frames

Cast-steel components are used in critical areas of the main frame where loads and shocks are most concentrated.



### High power density axle

Smaller high strength gear and an optimised casting shape reduce overhaul costs and improve fuel efficiency by lowering the truck's weight.

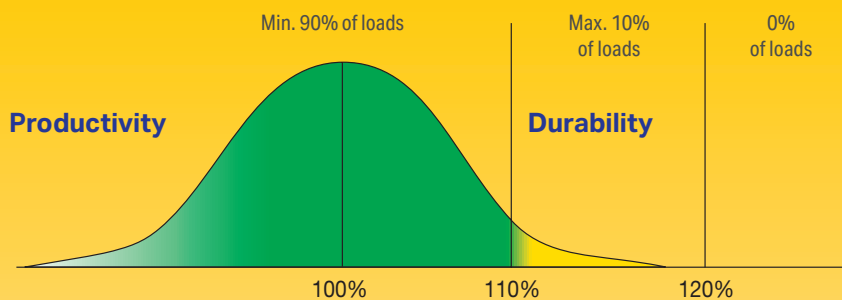
### Rugged and durable dump body design

Several different types of bodies are selectable, with optional equipment for various load conditions prepared for each one. The standard dump body is made of high-tensile-strength steel with a Brinell hardness of 400 for excellent rigidity and reduced maintenance cost.

The V-shape design gives lower center of gravity and also increase the structural strength. The side and bottom plates of the dump section are reinforced with ribs for added strength.

### Loading policy

Each dump truck has its own "target payload". Respecting the "Loading Policy" maximises productivity with the full utilisation of the truck's performance. It reduces operating costs, and extends the life of brakes, tires, and other components.



### 10/10/20 policy

- Monthly average payload must not exceed the truck's target payload.
- No less than 90% of all loads must be up to 110% of the truck's target payload.
- No more than 10% of all loads may be between 110% and 120% of the truck's target payload.
- Any single load must not exceed 120% of the truck's target payload.



## Easy maintenance



### Ground access battery disconnect switch

Lockable battery / starter isolators, machine lockout switch and emergency stop for easy and safe daily check and service work.

### Long service intervals

Engine oil at 500 hours, transmission oil at 1000 hours and hydraulic oil at 4000 hours change intervals minimise operating cost.

### Komatsu Care

Komatsu Care is a maintenance program that comes as standard with your new Komatsu machine. It covers factory-scheduled maintenance, performed with Komatsu Genuine parts by Komatsu-trained technicians. It also offers extended coverage of the Komatsu Diesel Particulate Filter (KDPF).



### Modular design wide core radiator with reversible fan

The wide core modular radiator prevents clogging even in a dusty work environment. To minimise manual cleaning, a reversible fan blows the dust out. The radiator core can be removed without the entire assembly, keeping repair costs down.

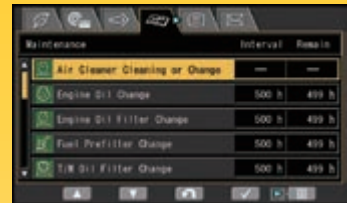


### Wet multiple-disc brakes and fully hydraulic braking system

The multi-disc service brake is encapsulated and runs in an oil bath. The brake stays clean and operates at low temperature for increased service intervals and a long lifetime.



Maintenance caution



Basic maintenance screen



Radiator fan mode



Troubleshooting screen





**Centralised greasing points and arrangement of filters**

Greasing points and filters are centralised and located accessible from ground level to make daily maintenance easier.



**Electric priming pump**

Bleeding air from fuel system is easily accomplished with the electric priming pump.



**Electric circuit breaker**

A circuit breaker is installed in important electric circuits to quickly restore them if a problem occurs in the electrical system.

**Service center**

A service center is conveniently located on the bottom part of the steering/hoist tank. It facilitates fast oil and coolant refill.



Lightweight plastic wheel chocks



## Komtrax

### What

- Komtrax is Komatsu's remote equipment monitoring and management system
- Komtrax is standard equipment on all Komatsu construction products
- Komtrax continuously monitors and records machine health and operational data
- Information such as fuel consumption, utilisation, and a detailed history aids in making repair or replacement decisions

### When

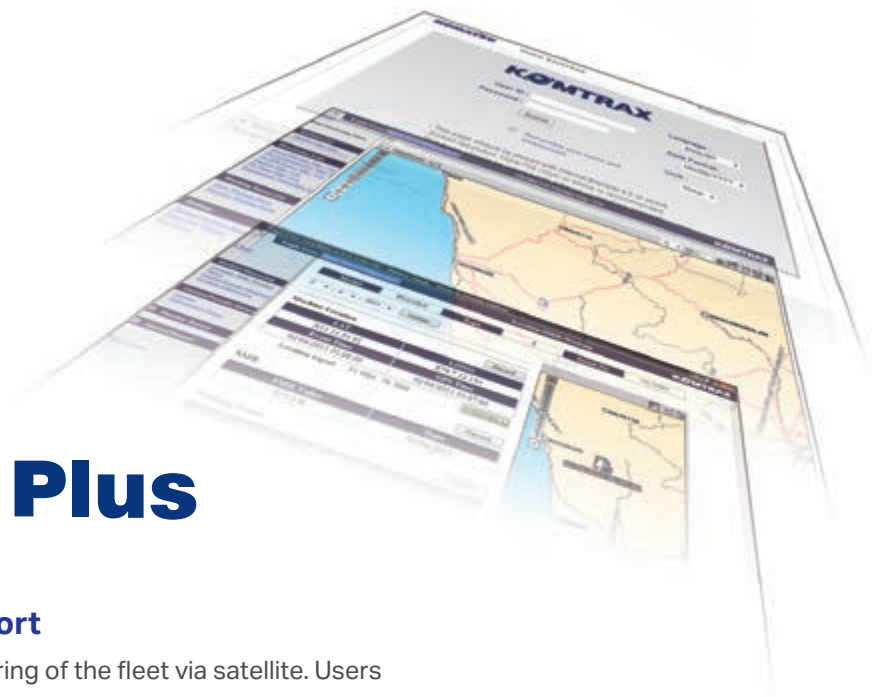
- Know when your machines are running or idling and make decisions that will improve your fleet utilisation
- Detailed movement records ensure you know when and where your equipment is moved
- Up to date records allow you to know when maintenance was done and help you plan for future maintenance needs

### Where

- Komtrax data can be accessed virtually anywhere through your computer, the web or your smart phone
- Automatic alerts keep fleet managers up to date on the latest machine notifications

### Why

- Knowledge is power - make informed decisions to manage your fleet better
- Knowing your idle time and fuel consumption will help maximise your machine efficiency
- Take control of your equipment - any time, anywhere



## KOMTRAX Plus

### Equipment management support

Komtrax Plus enables expanded monitoring of the fleet via satellite. Users can analyse "machine health" and performance from a remote location. This includes component condition and trend data. By making this critical information readily accessible, Komtrax Plus is an effective tool in maximising productivity and lowering operating cost.





# Specifications

## Engine

Model	Komatsu SAA12V140E-7
Type	Common rail direct injection, water-cooled, emissionised, turbocharged, after-cooled diesel
Engine power	
at rated engine speed	1900 rpm
ISO 14396	895 kW / 1200 HP
ISO 9249 (net engine power)	849 kW / 1140 HP
No. of cylinders	12
Bore × stroke	140 × 165 mm
Displacement	30.48 l
Max. torque	517 kgf-m
Governor	Electronically controlled
Lubricating system	Gear pump, force lubrication
Filter	Full-flow filter
Air filter type	Dry type with double elements, precleaner and evacuator valve
Fuel	Diesel fuel, conforming to EN590 Class 2/ Grade D. Paraffinic fuel capability (HVO, GTL, BTL), conforming to EN 15940:2016

## Transmission

Torque converter	3-elements, 1-stage, 2-phase
Transmission	Full-automatic, planetary type
Speed range	7 speeds forward and 2 reverse (RH/RL)
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 (lockup)
Shift control	Electronic shift control with automatic clutch modulation in all gears
Max. travel speed	65 km/h

## Steering system

Type	Full-hydraulic power steering with two double-acting cylinders
Supplementary steering	Automatically and manually controlled (meets ISO 5010 and SAE J1511)
Minimum turning radius, centre of front tyre	10.1 m
Max. steering angle (outside tyre)	41°

## Suspension

MacPherson strut type front suspension and four-link type rear axle suspension with independent, hydropneumatic cylinders	
Effective cylinder stroke	
Front suspension	320 mm
Rear suspension	127 mm
Rear axle oscillation	
Oil stopper	5.3°
Mechanical stopper	6.0°

## Axles

Final drive type	Planetary gear
Rear axle	Full-floating
Ratios	
Differential	2.944
Planetary	7.235

## Brakes

Brakes meet ISO 3450 standard.	
Service brakes	
Front	Full-hydraulic control, oil-cooled multiple-disc type
Rear	Full-hydraulic control, oil-cooled multiple-disc type
Parking brake	Spring applied, multiple-disc type
Retarder	Oil-cooled, multiple-disc front and rear brakes act as retarder
Retarder capacity (continuous)	1320 kW / 1770 HP
Secondary brake	Manual pedal operation. When hydraulic pressure drops below the specified level, parking brake is automatically actuated
Brake surface	
Front	39195 cm <sup>2</sup>
Rear	71858 cm <sup>2</sup>

## Hydraulic system

Hoist cylinder	Twin, 2-stage telescopic type
Relief pressure	20.6 MPa (210 kg/cm <sup>2</sup> )
Hoist time (at high idle)	11.5 s

## Tyres

Standard tyres	27.00 R49
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## Weight (approx.)

Empty weight	73800 kg
Gross vehicle weight	166000 kg
Weight distribution	
Empty:	
Front axle	51.5%
Rear axle	48.5%
Loaded:	
Front axle	33.2%
Rear axle	66.8%

## Body

Capacity:	
Struck	40.0 m <sup>3</sup>
Heaped (2:1, SAE)	60.0 m <sup>3</sup>
Payload	92.2 metric tons
Material	130 kg/mm <sup>2</sup> high tensile strength steel
Material thickness:	
Bottom	19 mm
Front	12 mm
Sides	9 mm
Target area (inside length × width)	7070 mm × 5150 mm
Heating	Exhaust heating

## Main frame

Type	Box-sectioned structure
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## Cab

Complies with ISO 3471 ROPS (Roll-Over Protective Structure) and ISO 3449 level II FOPS (Falling Object Protection Structure) standards.

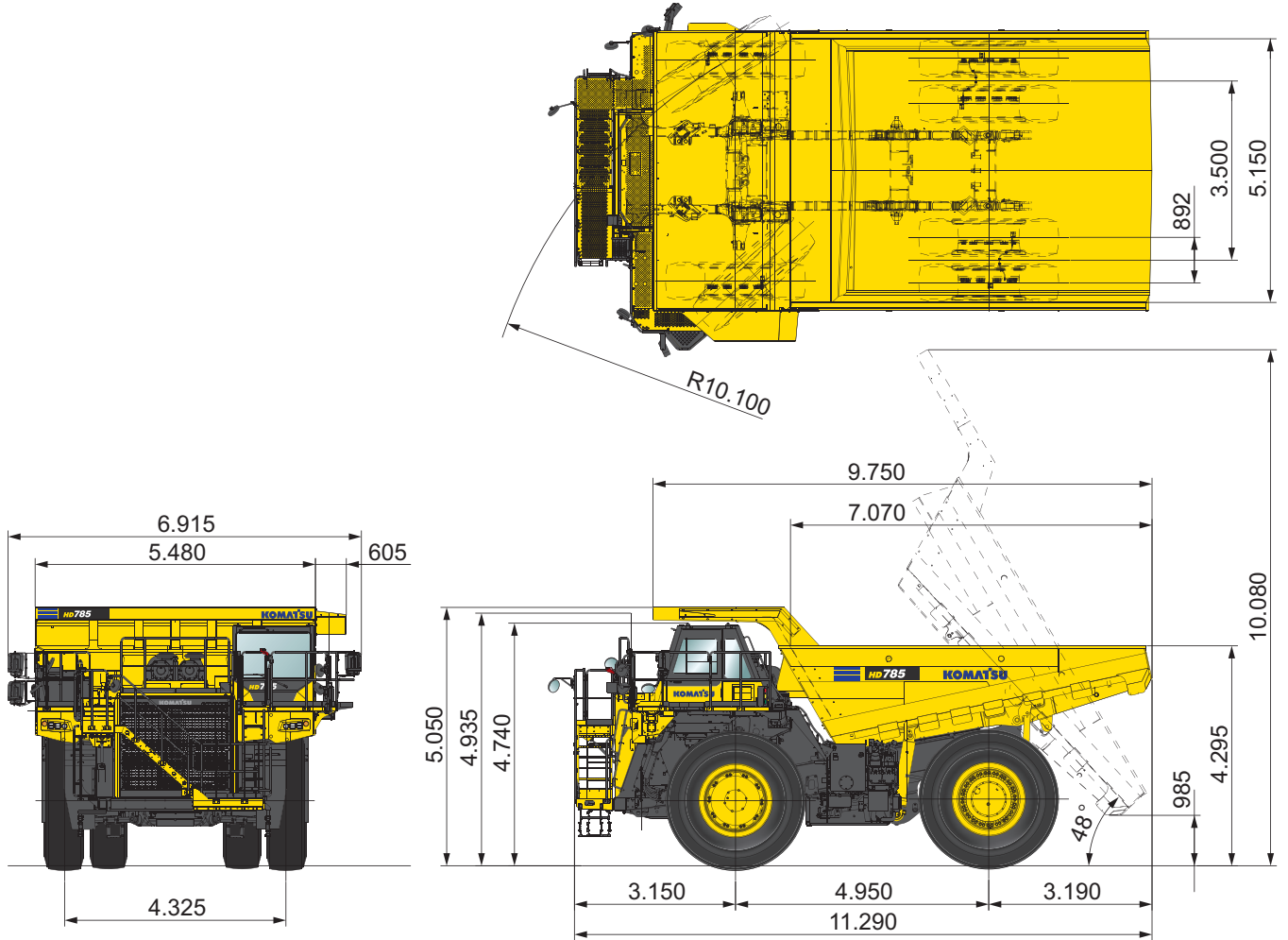
## Environment

Engine emissions	Fully complies with EU Stage V exhaust emission regulations
Noise level, LpA operator ear	72 dB(A) (ISO 6396 dynamic test)
Vibration levels (EN 12096:1997)	
Hand/arm	≤ 2.5 m/s <sup>2</sup> (uncertainty K = 0.65 m/s <sup>2</sup> )
Body	≤ 0.5 m/s <sup>2</sup> (uncertainty K = 0.21 m/s <sup>2</sup> )
Contains fluorinated greenhouse gas HFC-134a (GWP 1430). Quantity of gas 0.9 kg; CO <sub>2</sub> equivalent 1.29 t	

## Service refill capacities

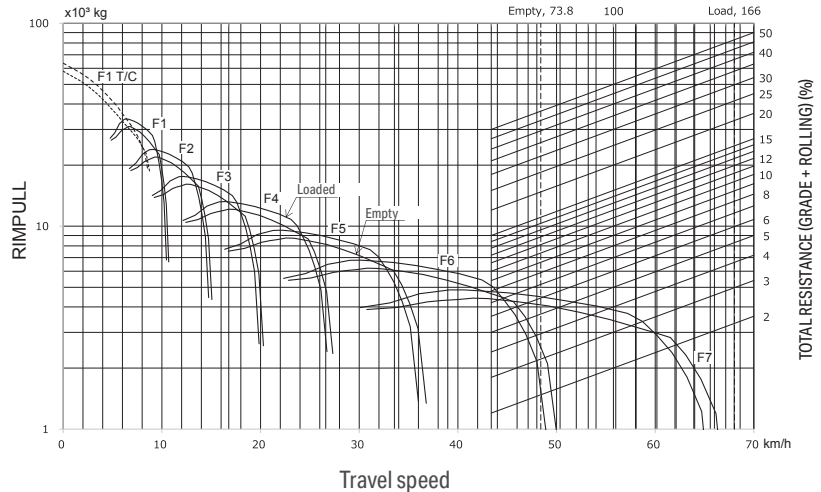
Fuel tank	1322 l
Engine oil	138 l
Torque converter, transmission and retarder cooling	530 l
Differential	203 l
Final drives (total)	116 l
Hydraulic system	385 l
Suspension (total)	92.6 l

# Dimensions and performance figures



### Travel performance

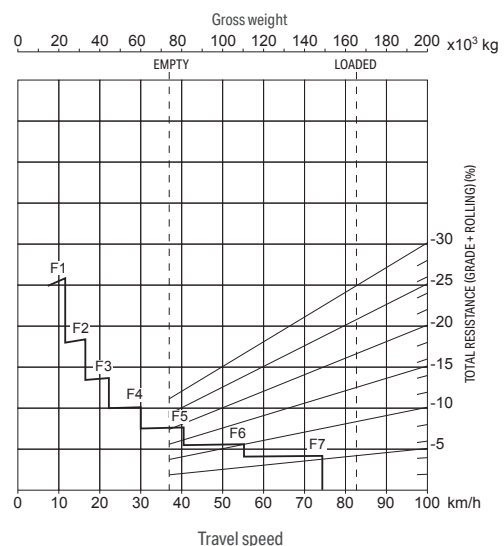
To determine travel performance: Read from gross weight down to the percent of total resistance. From this weight-resistance point, read horizontally to the curve with the highest obtainable speed range, then down to maximum speed. Usable rimpull depends upon traction available and weight on drive wheels.



### Brake performance

To determine brake performance: These curves are provided to establish the maximum speed and gearshift position for safer descents on roads with a given distance. Read from gross weight down to the percent of total resistance. From this weight resistance point, read horizontally to the curve with the highest obtainable speed range, then down to maximum descent speed the brakes can safely handle without exceeding cooling capacity.

#### GRADE DISTANCE: CONTINUOUS DESCENT



# Standard and optional equipment

## Engine

Komatsu SAA12V140E-7 turbocharged common rail direct injection diesel engine	●
EU Stage V compliant	●
Remote hydraulically driven, variable speed, reversible cooling fan	●
Auto-deceleration function	●
Adjustable idle shutdown	●
Engine power mode selection system with VHPC	●
Alternator 140 A / 24 V	●
Starter motor 2 × 11 kW	●
Batteries 4 × 12 V / 160 Ah	●
Dry type air cleaner, double element with dust indicator	●
Engine oil & coolant heater	○
Engine prelubrication	○

## Body

Body exhaust heating kit	●
Spill guard, 300 mm	●
Electronic hoist control system	●
Cab guard (l.h.)	●
Platform guard (r.h.)	●
Body liners	○
Non-body heating kit	○

## Lighting system

Back-up light	●
LED headlights, indicator and hazard lights	●
Fog lights	●
LED combination lights, rear	●
LED rear working lights, left and right	●
Back-up light, additional	○

## Axles and tyres

MacPherson strut type front suspension	●
Tyres 27.00-R49	●
Automatic suspension, 3-mode	○

## Cabin

ROPS/FOPS cab, sound suppression type with tinted windows, front laminated glass, two doors (left and right)	●
Operator seat, air suspension type with heating, ventilation and retractable 3-point seat belt	●
Trainer seat with 2-point seat belt	●
Steering wheel, tilt and telescopic	●
Air conditioner	●
Sun visor	●
Windshield washer and wiper (with intermittent feature)	●
Cigarette lighter, ashtray, cup holder, space for lunch box	●
AM/FM radio with AUX terminal, USB, and Bluetooth®	●
Body dump counter	●
Eco-gauge and Eco guidance	●
2 × 12 Volt power supply	●

## Service and maintenance

Large LCD colour monitor panel	●
Komtrax Plus – Komatsu wireless monitoring system	●
Komatsu Care – a maintenance program for Komatsu customers	●
Centralised greasing	●
Electric refuelling pump	●
Fuel tank with fast fill coupler	●
PM service connections	●
Poor fuel arrangement (water and dust)	●
Engine room lamp	●
Electric circuit breaker, 24 V	●
Fast oil fill system	●
Wheel chocks	●
Hydraulic oil filter clogging alarm	●
Automatic greasing system	○
Battery jump start	○

## Safety equipment

Speed limiter	●
Back-up alarm	●
Automatic supplementary steering	●
Battery main switch	●
Hand rails for platform	●
Horn, electric	●
Ladders, left and right hand side	●
Protective fence around engine hood	●
Heated rear-view mirrors	●
Under-view mirrors	●
KomVision surround view system	●
Rear-view camera system and monitor	●
Secondary engine shutdown switch (inside cab)	●
Hydraulically controlled wet multiple-disc brakes and retarder	●
Overrun warning and prevention system	●
Overturn warning system	●
Pedal-operated secondary brake	●
Neutral coast inhibitor	●
Emergency engine stop switch	●
Komatsu Traction Control System (KTCS)	●
Step light	●
Starter disconnect switch	●
Body position alarm	●
Overload speed limiter	●
Antilock brake system (ABS)	○

## Other equipment

Exhaust thermal guard	●
Fire prevention covers	●
Engine underguard	●
TM underguard	●
Drive shaft guard (front and rear)	●
Engine side covers	●
Lockable fuel cap and covers	●
Radiator shutter, canvas type	○

Further equipment on request

● standard equipment

○ optional equipment



This specification sheet may contain attachments and optional equipment that are not available in your area.

Please consult your local Komatsu distributor for those items you may require.

Materials and specifications are subject to change without notice.

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