KOMATSU

HD785-8

EU Stage V Engine

HD785

OFF-HIGHWAY TRUCK

ENGINE POWER
895 kW / 1.200 HP @ 1.900 rpm

NOMINAL PAYLOAD
92,2 metric tons

BODY CAPACITY, HEAPED
60 m³

Walk-Around

HD785-8

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895 kW / 1.200 HP @ 1.900 rpm

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92,2 metric tons

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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

KOMATSU CARE™

A maintenance program for Komatsu customers

Powerful and Environmentally Friendly

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.

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

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

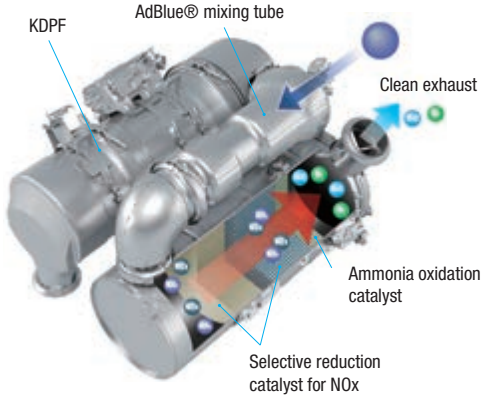
The aftertreatment system combines a Komatsu Diesel Particulate Filter (KDPF) and Selective Catalytic Reduction (SCR). The SCR injects the correct amount of AdBlue® into the system at the proper rate to break down NOx into water (H_2O) and non-toxic nitrogen gas (N_2). NOx emissions are reduced by 80% vs. EU Stage IIIB engines.

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.

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.

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)

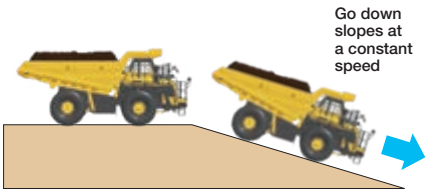
The PLM registers the payload of each hauling cycle and analyses the truck's production volume and working conditions for a specific period. Loaded weight is displayed in real time, both on the cab's monitor and by external display lamps.

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.

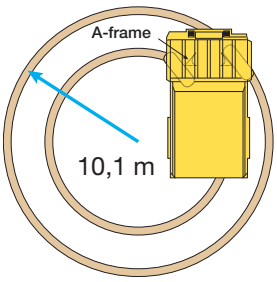
K-ATOMiCS transmission

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.



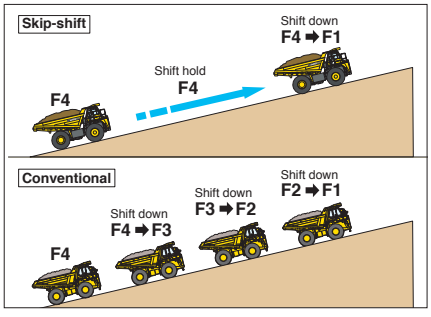
Auto Retard Speed Control (ARSC)

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 (± 5 km/h max.).



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

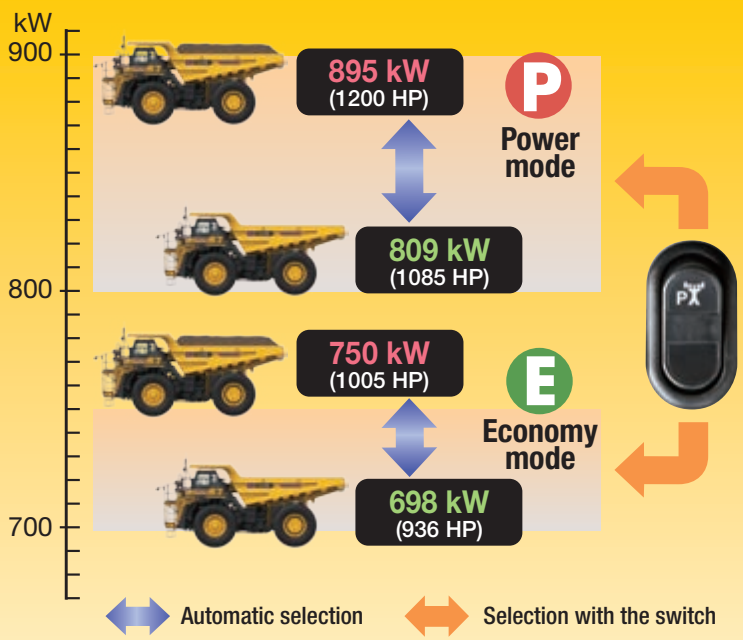
Automatically selects a gear position depending on the slope grade when driving uphill, without shifting down through each gear. It reduces the number of downshifts, makes driving smoother, improves operator comfort and reduces material spillage.

Large body

A wide target area makes for easy loading with minimal soil spillage and more efficient hauling.
Heaped capacity: 60,0 m³
Target area (inside length × width):
7.065 mm × 5.200 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 rectractable 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.

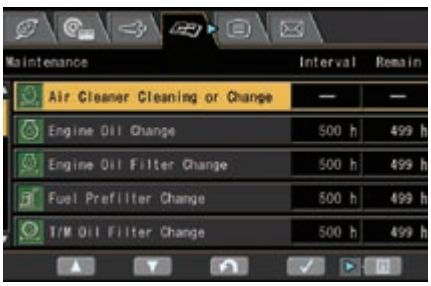
Large LCD colour monitor

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.

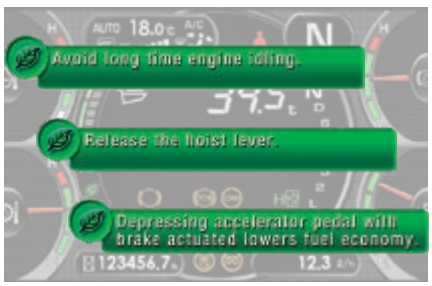
Troubleshooting function

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



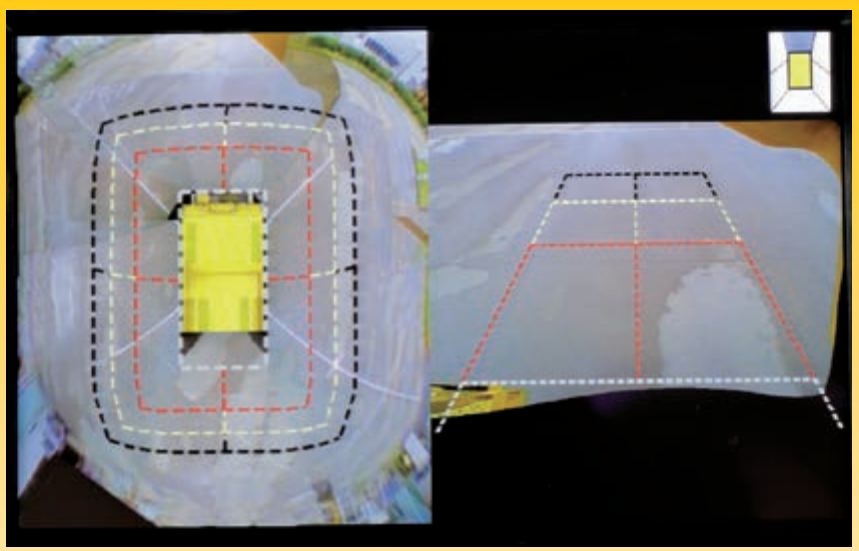
A multifunction monitor displays and controls a wealth of operational and maintenance information



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 wide-screen 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.

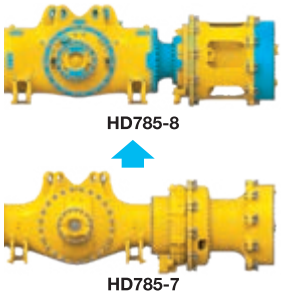
Speed limiter

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

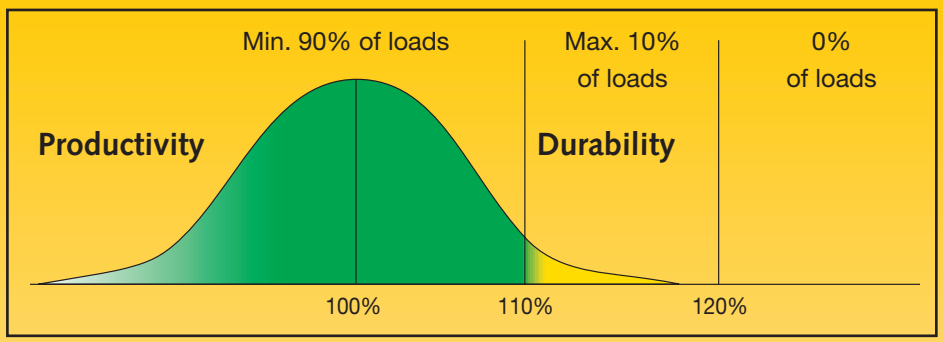
Several different types of bodies are selectable, with optional equipment for various load conditions prepared for each one.

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 and V-bottom design also increase 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

For easy and safe daily check and service work, the battery disconnect switch is accessible from ground level.

Long service intervals

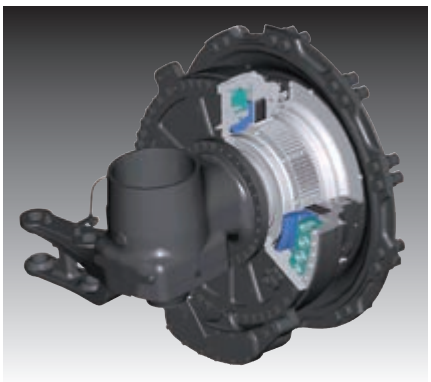
Engine oil at 500 hours, transmission oil at 1000 hours and hydraulic oil at 4000 hours change intervals minimise operating cost.

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. Depending on your machine's engine, it also offers extended coverage of the Komatsu Diesel Particulate Filter (KDPF) or the Komatsu Diesel Oxidation Catalyst (KDOC), and of the Selective Catalytic Reduction (SCR). Please contact your local Komatsu distributor for terms and conditions.

Modular design wide core radiator with reversible fan

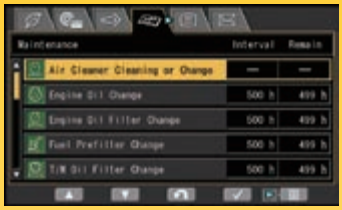
The wide core modular radiator prevents clogging even in a dusty work environment. To minimise manual cleaning, a reversible fan blows the dust out. The radiator core can be removed without the entire assembly, keeping repair costs down.



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

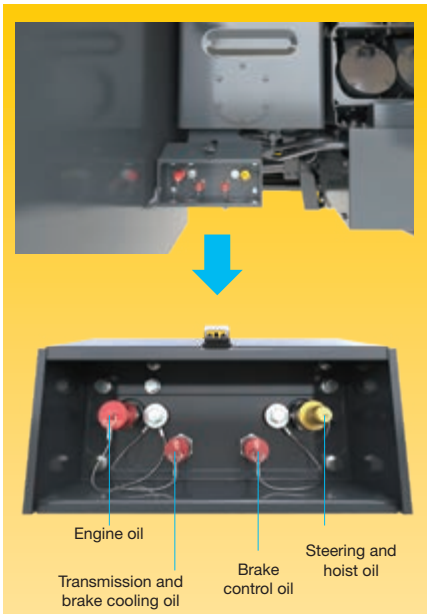
Greasing points and filters are centralised and located accessible from ground level to make daily maintenance easier.

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, turbocharged, after-cooled diesel
Engine power	
at rated engine speed	1.900 rpm
ISO 14396	895 kW/1.200 HP
ISO 9249 (net engine power)	849 kW/1.140 HP
No. of cylinders	12
Bore × stroke	140 × 165 mm
Displacement	30,48 l
Max. torque	517 kgf-m
Governor	Electronically controlled
Lubrication system	
Lubrication method	Gear pump, force lubrication
Filter	Full-flow filter
Air-filter type	Dry type with double elements, precleaner and evacuator valve

TRANSMISSION

Torque converter	3-element, 1-stage, 2-phase
Transmission	Full-automatic, planetary type
Speed range	7 speeds forward and 2 reverse (RH/RL)
Lock-up clutch	Wet, multiple-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°

TYRES

Standard tyres	27.00 R49

MAIN FRAME

Type	Box-sectioned structure

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)	1.320 kW / 1.770 HP
Secondary brake	Manual pedal operation. When hydraulic pressure drops below the specified level, parking brake is automatically actuated.
Brake surface	
Front	39.195 cm²
Rear	71.858 cm²

HYDRAULIC SYSTEM

Hoist cylinder	Twin, 2-stage telescopic type
Relief pressure	20,6 MPa (210 kg/cm²)
Hoist time (at high idle)	11,5 s

CAB

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

Specifications

HD785-8

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/s² (uncertainty K = 0,65 m/s²)
Body	≤ 0,5 m/s² (uncertainty K = 0,21 m/s²)
Contains fluorinated greenhouse gas HFC-134a (GWP 1430). Quantity of gas 0,9 kg, CO_2 equivalent 1,29 t	

WEIGHT (APPROX.)

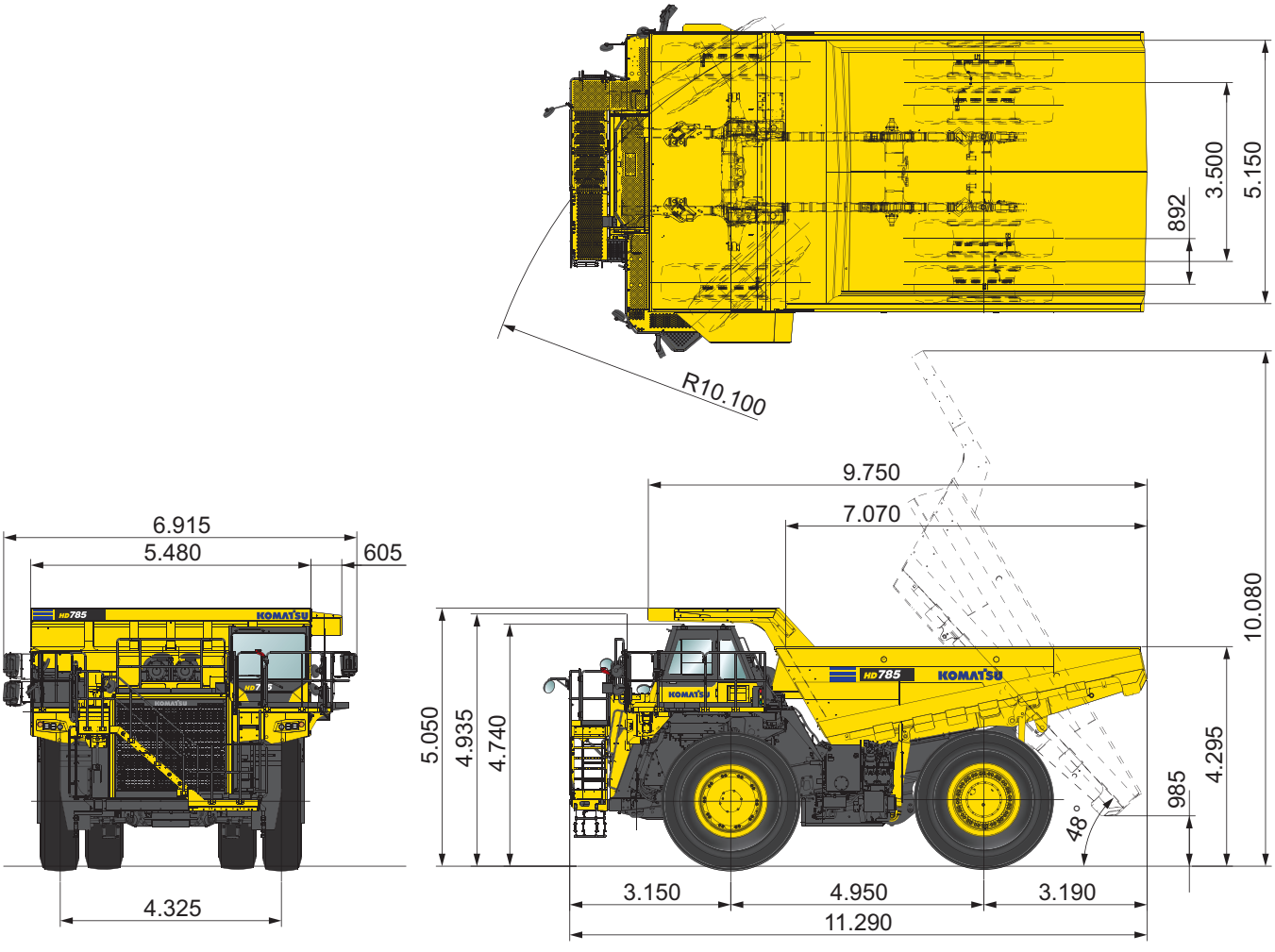
Empty weight	73.800 kg
Gross vehicle weight	166.000 kg
Weight distribution	
Empty	
Front axle	51,5%
Rear axle	48,5%
Loaded	
Front axle	33,2%
Rear axle	66,8%

SERVICE REFILL CAPACITIES

Fuel tank	1.322 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

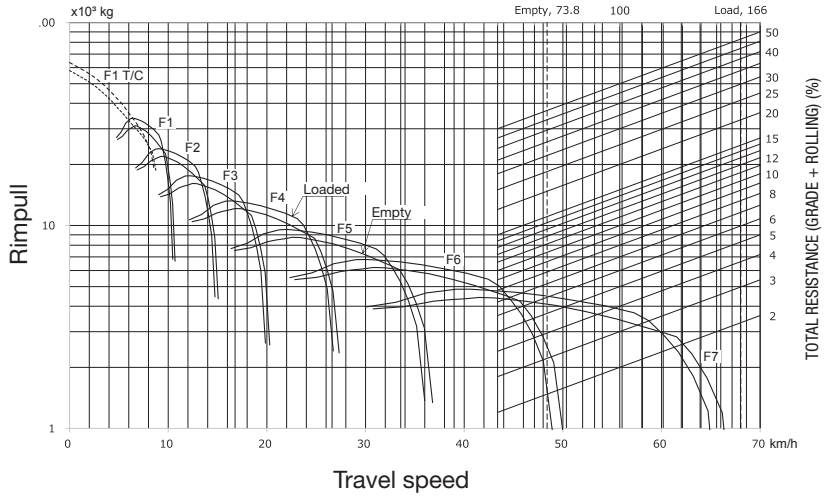
BODY

Capacity	
Struck	40,0 m³
Heaped (2:1, SAE)	60,0 m³
Payload	92,2 metric tons
Material	130 kg/mm² high tensile strength steel
Material thickness	
Bottom	19 mm
Front	12 mm
Sides	9 mm
Target area (inside length × width)	7.070 mm × 5.150 mm
Heating	Exhaust heating



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.

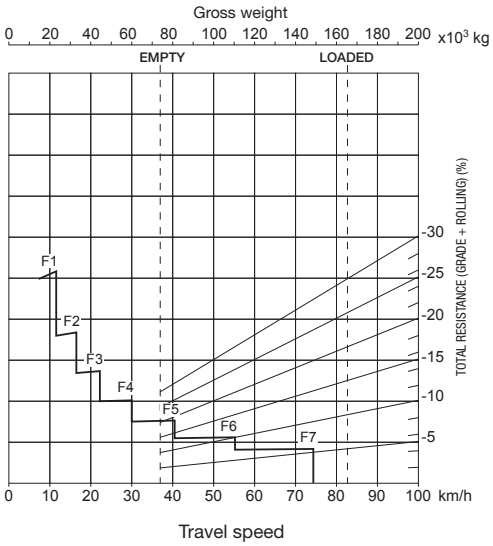


Travel speed

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



Travel speed

Standard and Optional Equipment

HD785-8

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 auto 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 prelubrification	○

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	○

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	○

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	○

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

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)	○

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	○

Further equipment on request

● standard equipment
○ optional equipment

Your Komatsu partner:

Komatsu Europe International N.V.
Mechelsesteenweg 586
B-1800 VILVOORDE (BELGIUM)
Tel. +32-2-255 24 11
Fax +32-2-252 19 81
www.komatsu.eu

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