SANYI

SKT90S Wide-Body Dump Truck
（Automatic）

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Main parameter

Main parameter	Value
Engine power	390kW,530HP@2100HP
Transmission	FC6A250DPR
Stowed capacity of cargo body	38m³
Axle load	25T+35T+35T
Rated loading capacity	60T
Maximum Gross Mass of Vehicle	92T
Steering type	Full-hydraulic + emergency steering
Suspension structure	Front hydraulic/ pneumatic suspension + rear leaf spring suspension
Tyre	16.00R25 Wire Tire

PRODUCT ADVANTAGES AND FEATURES

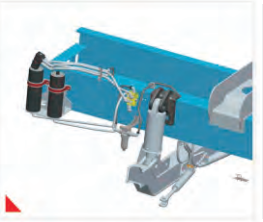
SKT90S wide-body dump truck independently developed by Sany Heavy Equipment integrated the technologies of “wide-body mining truck” and “classic mining truck” and made special upgrades for critical parts, including frame, suspension, steering system, and cab, to offer the customers with all-new mining transport products of high cost-performance, high attendance rate, and high safety.

High-strength frame

The all-new designed low-stress and high-strength frame effectively prevents the fatigue breakage of frame and reduce the overall stress level by 51% compared with competing products.

Hydro-pneumatic suspension

The hydro-pneumatic suspension technology is applied to replace the traditional leaf spring structure, remarkably improve the life and comfort of the machine, thoroughly solve the frequent breakage problem of front suspension leaf springs in the industry, and promote the attendance rate of the machine. The hydro-pneumatic suspension features excellent shock-absorbing and damping performance to remarkably improve the load application of frame and prolong the life of frame.

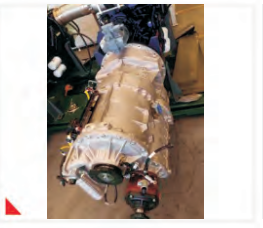


Full-hydraulic steering + emergency steering

The full-hydraulic steering makes the steering easier and safer.
The full-hydraulic steering design concept of traditional mining truck is applied to solve the industry’s heavy steering problem due to the heavy truck type mechanical steering.
In addition, the emergency steering device is installed to solve the presently industry’s safety accidents due to steering failure during the emergency braking in event of power failure of the machine.

Intelligent electric system

The “Two-in-one” electronic control module features high intelligence and incorporates the electric malfunction self-diagnosis to solve the customers’ actual troubleshooting difficulties.
It’s equipped with 10” large central control screen, reversing camera, and mobile phone Bluetooth connectivity and is compatible with the mine intelligent management system.
The built-in GPS module enables the effective monitoring on the running status of machine.



Hydraulic retarder

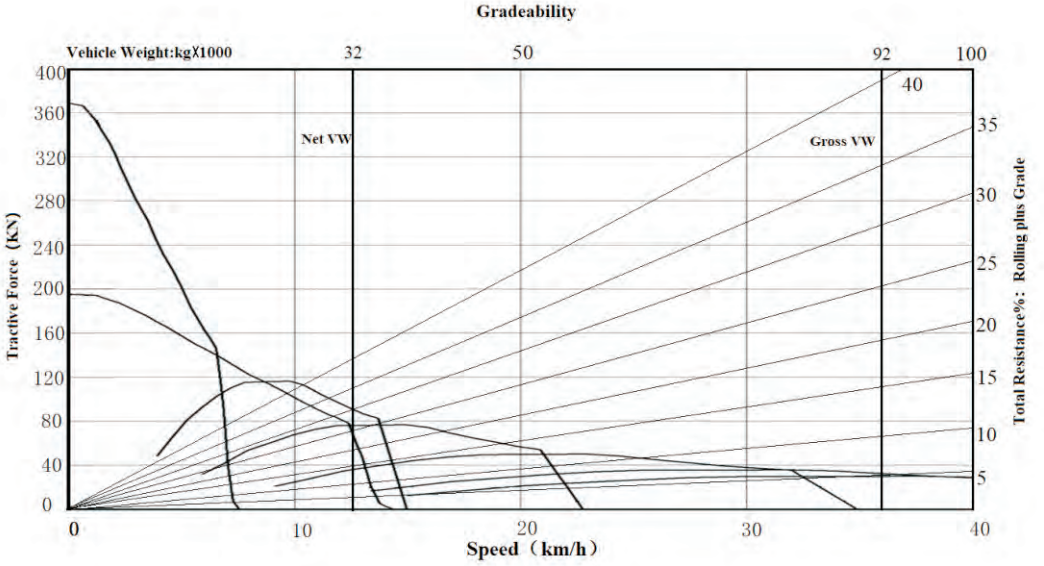
The automatic transmission is easy to operate,and equipped with retarder, which can solve the problem that the braking force of the vehicle braking system drops seriously due to the heat recession when trucks go downhill with heavy load, so as to ensure the braking safety of the whole machine.

All-new appearance

The all-new interior and exterior modeling features more overall fullness feeling and brings about better visual impact.
The airtightness of the cab is improved to achieve better sound-proof and dust-proof performance.
The reasonable human-machine arrangement improves the operating comfort.

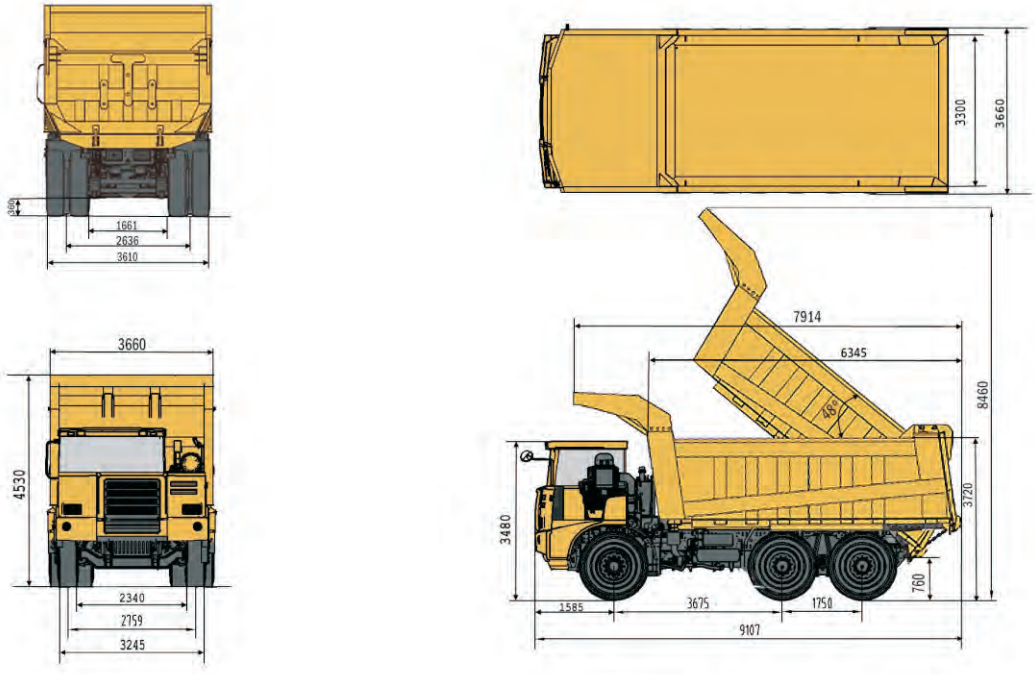
Operating Characteristics

The diagram is fabricated based on 0% rolling resistance.



Note: From the intersection point between weight coordinate and the oblique line of corresponding total resistance %, determine the achievable highest gear under this working condition in horizontal direction and find out the corresponding speed in vertically downward direction.

Dimensions



Dimensional unit: mm

Reliability Verification for Critical Parts

Frame fatigue test

Front suspension cylinder durability test

Cab shock test

The digitalized finite element analysis technology and the stress test means are utilized to simulate the complicated working conditions of mines and fulfill bench tests for critical parts, including frame system, cab system, and front suspension cylinders, to guarantee the product reliability.

Weight Specification

Weight parameter	kg	lb
Net Weight of Truck	32,000	70,548
Rated Loading capacity	60,000	132,000
Maximum gross weight of vehicle	92,000	202,825

* The maximum gross weight of vehicle includes optional equipment, all accessories, fully filled fuel tank, and load.

Engine

Model ····· Weichai WP13G530E310
Type ····· 4-stroke and turbocharged/intercooled
Total power (@2,100rpm) ····· 390kW(530hp)
Maximum torque (@1,500 rpm) ····· 2300N.m
Number/type of cylinders ····· 6-cylinder/Inline
Cylinder bore × Stroke ····· ø127x 165mm(5x6.lin)
Displacement ····· 12.54L(765in^3)

Transmission

The large torque transmission of FC6A250DPR is jointly developed by fast and Carterpillar · which is specially designed for the mining development, with hydraulic torque converter, strong climbing ability and smooth shifting. It has Strong loading capacity and high reliability. And it can shift automaticly according to road conditions,with good fuel economy.The labor intensity of drivers is small.The maximum travel speed can reach 42km/h For reverse gear,the maximum speed is 7.8km/h.

Drive Axle

The heavy-load full-floating half shafts are applied. The main reducer features compact structure and high transmitted torque. The enhanced planet wheel reducer and high-strength cast steel axle housing are equipped.
Drive ratio:
Main reduction ratio ····· 4.62:1
Wheel reduction ratio ····· 3.81:1
Total speed ratio ····· 17.62:1

Brake system

The double-circuit pneumatic control brake system with drum brakes is applied. Two circuits are independent with each other, with large brakes and high air reservoir capacity. The enhanced air chamber springs provides sufficient emergency braking force. The low pressure warning device is installed to alert the driver.
Brake specification:
Front axle ····· ø500×250mm
Intermediate and rear axles ····· ø500×250mm
The braking torque is 90,000N.m at 0.8MPa air pressure.

Steering System

Full-hydraulic steering system + emergency steering
The international brand steering gear guarantees handy and reliable steering. The steering cylinder is installed on the rear end of axle to reduce the malfunction rate.
The full-hydraulic steering + emergency steering improve the driving comfort. The handy and reliable emergency steering can, in event of the malfunction of engine steering pump, still guarantee the steerability of the vehicle to maximize the vehicle safety.

Lifting System

ø196mm lifting cylinder and FE type lifting mode feature high lifting height and stable lifting.

System pressure ····· 130bar
Lifting hydraulic pump flow (@2,000rpm) ····· 240L/min
Working time:
Lifting ····· 35s
Lowering ····· 25s

Suspensions

Front suspension: Non-independent hydro-pneumatic spring suspension with hydraulic/pneumatic (nitrogen) suspension cylinders of variable damping characteristic, featuring high unit energy storage and variable stiffness and better absorption of road impact.
Maximum impact stroke ····· 160mm
Rear suspension: Reinforced knuckle bearing thrust rod + tightening by leaf spring straight bolts.
Rear leaf spring dimension ····· 18×27mm×120mm (Plate × width × height), 5 main plates
Balance shafts: Maintenance-free balance shafts in shaft diameter of ø130mm.

Cargo Body

The framework of cargo body adopt through type structure of 5 vertical and 8 horizontal.The rhombus structure with SANY proprietary patented technology can match chassis compactly,which make axial load distribution more reasonable. Meanwhile the high strength wear plate Nm400 are widely used at the bottom and side plate.
Thickness:
Baseplate ····· 16mm
Side panel ····· 10mm
Front panel ····· 10mm
Capacity:
Leveled capacity ····· 33m^3
Stowed capacity ····· 38m^3

Frame

The mining special flexible structure is applied and the longitudinal beams are in (10+10+8) large section structure to achieve powerful bending and distortion resistance. The frame features high stiffness and impact resistance. The high stress areas are partially enhanced to achieve higher frame strength.

Cab

The all-skeleton structure improves the safety. The large-area windscreen design with wind rate provides the driver with a broad vision. The mechanical spring adjustable seat, standard heating and A/C system, wraparound dashboard, and adjustable steering wheel bring about the driver a more comfortable operating space.

Tires

Tire specification ····· 16.00R25 Wire Tyre

Optional

Optional equipment	Details
Tires	16.00R25 Wire Tyre (Tubeless)
V-shape Dump Body	Dump Body with Tail gate applicable for Large size material, ø≥500mm
Brake Cooling Sprayer	Applicable for long-distance heavy-load downslope driving condition.
Left Hand Drive Cabin	Export according to customer's requriement
Side Guards	Protect fuel tank and gasholder etc. from side collision
Automatic Lubricaiton System	Lubricating oil automatically filled to each filling point

Warning

No overload! The overload or brutal loading will seriously deteriorate the lives of parts and vehicle.

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