

## Wheel Loader ZL50GV

<b>Steering</b>		
Steering pump type		Gear pump
Steering configuration		Full hydraulic flow amplifies steering mode
Steering relief pressure	Bar	160
<b>Brakes</b>		
Service brake type		Disc type, dry
Service brake actuation		Air over hydraulic booster
Parking brake type		Soft shaft operation, Inner expanding shoe type
Parking brake actuation		Pneumatic
<b>Hydraulic System</b>		
Controls		Pilot operated
Main pump type		Gear pump
Main relief valve pressure	Bar	180
Raise	sec	≤6
Dump time	sec	≤1
Float down time	sec	≤3.5
Fastest total cycle time	sec	≤10.5
<b>Loader performance with standard bucket</b>		
Tipping load	kg	12300
Full turn tipping load	kg	11200
Bucket break out force	kN	175
Max. dump angle at full height	Degree	45
Dump clearance at full height discharge	mm	3100
Dump reach at full height discharge	mm	1100
Maximum hinge pin height	mm	3837
Maximum digging depth, bucket level	mm	46
Bucket rollback at ground level	Degree	42.5
Bucket rollback at carry	Degree	46.5
Bucket rollback at maximum height	Degree	56.3
<b>Bucket capacity</b>		
Standard	m <sup>3</sup>	3
Options	m <sup>3</sup>	2.8 - 4.5
<b>Dimensions</b>		
Length with bucket down	mm	8225
Width over tyres	mm	2850
Wheel base	mm	3300
Wheel tread	mm	2250
Ground clearance	mm	440
Turn angle, either side	Degree	38
Maximum gradeability	%	30
Turning radius, outside of tyre	mm	6225
Turning radius, centre of tyre	mm	6285
Turning radius, bucket carry	mm	6910
<b>Tires</b>		
Tire size		23.5-25 18PR
Tire pressure (front / rear)	kg/cm <sup>2</sup>	4.0±0.01 / 3.4±0.01
<b>Operating weight</b>		
Operating weight	kg	17300
<b>Service capacities</b>		
Fuel tank	Litre	300
Engine oil	Litre	20
Cooling system	Litre	45
Hydraulic oil tank	Litre	200
Transmission and torque converter	Litre	58
Axles, each	Litre	27

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XCMG Wheel Loader  
ZL50GV

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## Wheel Loader ZL50GV



XCMG ZL50GV loader shares the XCMG traditional loader representative model of XCMG-ZL50G. It not only inherits the ZL50G high quality, performance and technology, but also injects advanced design concepts of energy saving, efficiency and comfortable operation. The performance of the machine has been greatly improved, the service life of the main components of the whole machine has been greatly extended and the vibration and noise of the whole machine have been significantly reduced.

### Energy-saving powertrain

#### a. Engine

It adopts air-cooled, electronically controlled high-pressure, energy-saving Weichai engine with rated power of 162kW. The engine has three working modes to meet the needs of different working conditions and to maximize the efficiency of the whole machine. The desert air filter with three-stage filtration technology can adapt to the varied working condition. Strong castings are fixed on the engine body to improve reliability. Engine oil filter is externally placed for easy maintenance. The engine is reliable, adaptable and has the major advantages of low emission and fuel consumption.

### Hydraulic system

The working hydraulic system and the steering hydraulic system adopt the dual pump combined flow technology to reduce the displacement of the pump, improve the reliability of the pump, reduce the hydraulic no-load loss, save power, and fully utilize the engine power. The use of high-density pressure-resistant steel pipes completely solves the problem of loose and inflexible bending. The machine is equipped with pre-pressurized air filter to reduce the outside air exchange, while improving the pump oil absorption, to avoid pumping empty.

The hydraulic pipe line is optimally arranged to reduce pressure loss and energy loss in the system. The pilot operates the hydraulic system, which makes it easy to operate and reduces the operator's work intensity. The steering system adopts full hydraulic flow amplification system. The steering limit is hydraulic flexible and mechanical rigid double limit. The hydraulic control limit takes precedence over the mechanical limit, no impact and no damage.

#### b. Gearbox -torque converter

Equipped with parallel shaft type power shift transmission gearbox is electro-hydraulic control with automatic gear shift switch (KD function) from the front and rear of the gear position. Work efficiency is improved with ease in operation which can effectively reduce the driver's work intensity while the machine being adaptable to varied working requirements of the loader. It has large carrying capacity which is economic and improves engine life. Electronically controlled shifting makes operation easy and comfortable. With a neutral start protection function, it protects the transmission components and ensure the safe use of the loader.

#### c. Drive axle

It adopts special reinforced drive axle with reliable three-stage heavy-duty drive shaft for engineering machinery which is of good quality, reliable performance and for convenient maintenance. The XCMG dry axle for engineering machinery is independently developed by XCMG transmission manufacturing center has large traction and reliable performance. The front axle is rigidly fixed and the rear axle center swings, which improves the adaptability of the whole working condition and reduces the changes in center of gravity, thereby making the machine stable.

### Frame

The front and rear frame are super heavy-duty design, with thick steel plate, high strength and strong carrying capacity. The structure is concise, the pressing and irregular welds are reduced, the important bearing parts are strengthened, and the torsion and impact loads under various working conditions have been tried and tested. The key structure parts are made with finite element analysis, which reduces stress concentration and eliminates local weakness. The distance between the upper and lower hinge pins of the hinge center is increased, and the force at the hinge is dispersed, which reduces the stress of the hinge pin and improves the service life of the bearing.

Double tapered roller bearings are used at the lower hinge pin to increase the load carrying capacity and improve driving stability. The front frame is rigid and provides a solid mount for the boom and cylinder that absorbs strong torque, impact and loading forces. Increase in size of the fuel tank shield is made to prevent deformation or breakage of the fuel tank under adverse conditions. Casting support is directly fixed in the front frame which enhances the stiffness of the fixed structure. The vent hole is led out of the pipe and is placed in a higher position.

## Wheel Loader ZL50GV

### Cabin and control system

The new international version of the fully enclosed micro-charged air-conditioning cabin has a spacious interior and a wide view. High-performance shock-absorbing seat with multi-directional adjustable steering column is made to meet the needs of varied operator's height. New digital modular instrument is with fault diagnosis, the alarm function and the joystick is at your fingertips. Super spherical rearview mirror enhances operator's safety. Overall, the whole machine is comfortable and convenient to operate. The use of the follow-up control box increases the mobile phone charging interface and storage box, reflecting the humanized design concept.

### Working device and bucket

The working device is optimized and designed with a single rocker arm, short pull rod and horizontal boom cylinder with a Z-reverse six-bar linkage structure. The unloading impact is small, and it has superior working performance efficiency. The main hinge point adopts two-stage dustproof structure, which can effectively prevent dust and protect grease from pollution, and provide reliable protection for hinge pin and bushing. The main wearable part of the bucket is made of wear-resistant plates, and the bucket has a long service life. The pin lubrication method uses oil injection from the flange to eliminate the pin lubrication hole and increase the pin strength. To ensure that the bucket can be interchangeable under the premise of the work device hinge point optimization. The bucket unloading impact arm speed reduced by %30 or more reducing the impact greatly enhancing the operational comfort.

### Ease of Maintenance

Various maintenance points such as oil level check, oil addition and grease filling are arranged in easy-to-access areas, and air filter elements and electrical equipment can be easily removed. The whole machine is equipped with a centralized pressure measuring system to facilitate daily maintenance; The engine guard adopts large side door upturned design and the opening angle is large which is convenient to repair the engine and the radiator. The maintenance is easy and convenient with fault diagnosis.

### Multi-function

ZL50GV loader can be equipped with different working devices such as snow plow, long boom bucket, clamp, side dumper bucket and 5.0~2.0m<sup>3</sup> different buckets to meet different working requirements.

### Brake system

The brake system adopts the pneumatic - oil and the caliper disc four wheel braking system, which can exert a powerful braking force, while reducing the burden on each brake piston and improving durability. Air-controlled hand brake is with low-pressure protection for safe and reliable parking.

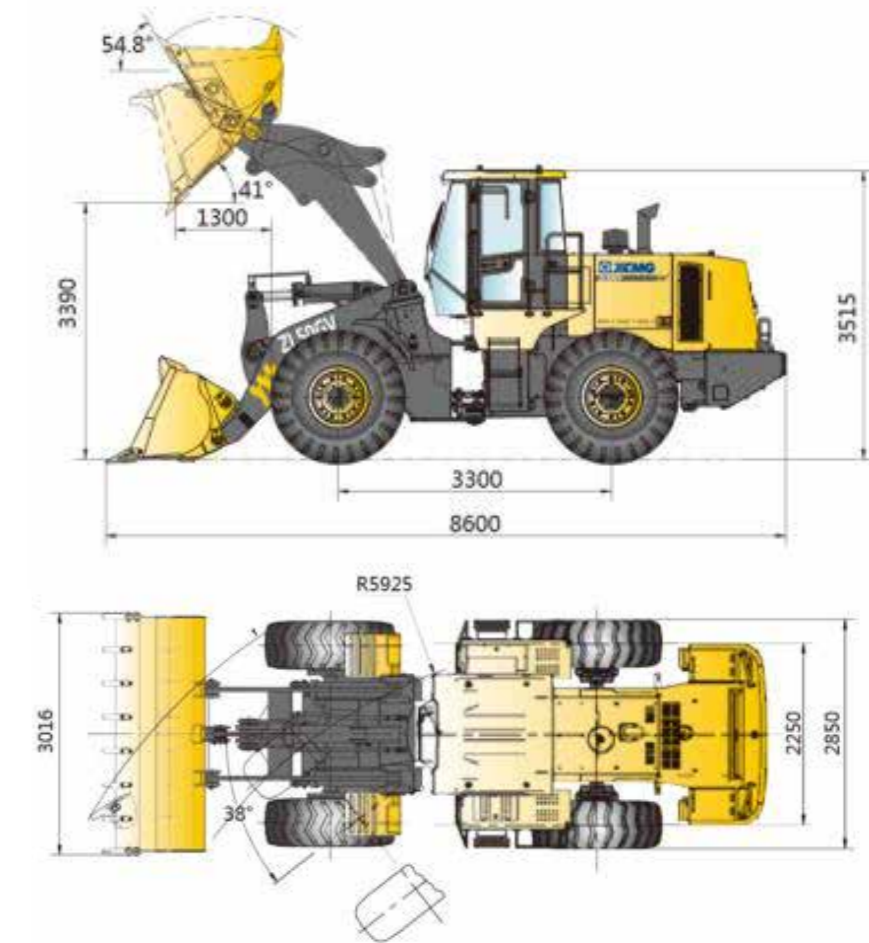
### Electrical system

The electrical system uses fully sealed connectors, which significantly improve dust and water resistance. With centralized control insurance, inspection and maintenance is more convenient and efficient. Centralized insurance and relays are built into the cab to make it safe from dust and water.



## Wheel Loader ZL50GV

### Technical Specifications



### Main technical parameters

Parameters	UoM	ZL50GV
<b>Engine</b>		
Tier		BS III
Make		Weichai Power Co., Ltd.
Model		WP10G220E341
Gross power		162kW@2200rpm
Net power		162
Peak torque		950Nm@1400~1600r/min
Displacement	mm	9.726
Number of cylinders		6
Aspiration		Turbocharger
<b>Transmission</b>		
Transmission type		Fixed-shaft type power(electric hydraulic)shift
Transmission configuration		Single stage single phase three elments
Model		ZF 4WG-200
Max. travel speed, fwd.	km/h	38
Max. travel speed, rev	km/h	24
Number of speeds, fwd.		4
Number of speeds, rev		3
<b>Axles</b>		
Differential front type		Fixed
Differential rear type		Oscillating
Axle oscillation		±12°