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# XE490U

Tier3 Final Engine

## Hydraulic Excavator



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### Engine

Model : QSM11  
 Output power : 375/2100 hp/rpm  
 280/2100 kW/rpm

### Operating Weight

48100kg  
 105820lb

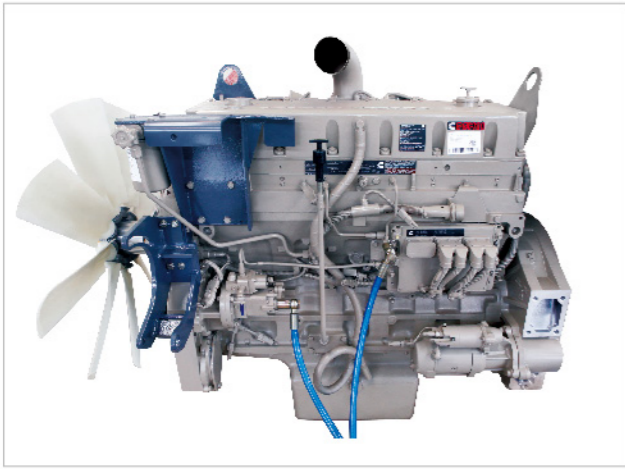
### Bucket Capacity

2.3-3.1m<sup>3</sup>  
 3.01-4.06yd<sup>3</sup>



## MORE ENERGY-EFFICIENT AND ENVIRONMENT FRIENDLY

- ▶ The power system adopts Cummins QSM11 engine imported from America, which applies direct injection, four-stroke, water cooling, turbo-charging, air to air intercooler and six cylinders and features high reliability, high adaptability, strong power, low energy consumption and environmental protection. It satisfies the EU III emission standard and is specific product well designed and manufactured for working conditions of engineering mechanical operation.



- ▶ The radiator is imported Toyo radiator. It has good heat dissipation performance, internal shock-absorbing capacity and high reliability.

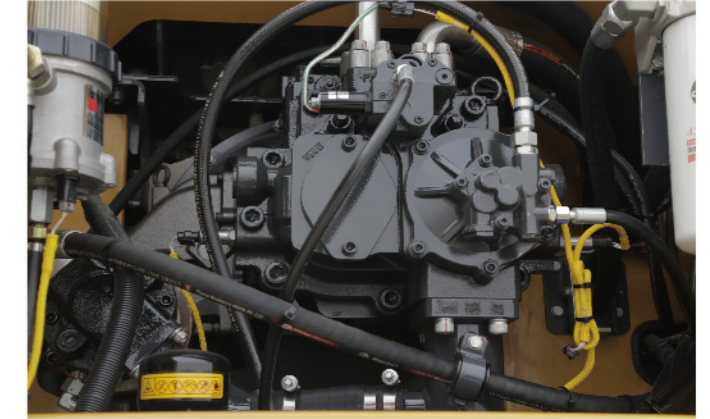


- ▶ The installation system of engine adopts plane four-point supporting flexible connection method which eliminates resonance between the power system and the frame and also reduces noise inside the cab.
- ▶ So that the engine can operate more efficiently. This system is also equipped with Donaldson air filter imported from America, of which the internal and external filter elements are all made of Ultra-Web® filter medium, so that filtration effect increases to 99.99% and the service life extends 2 times.

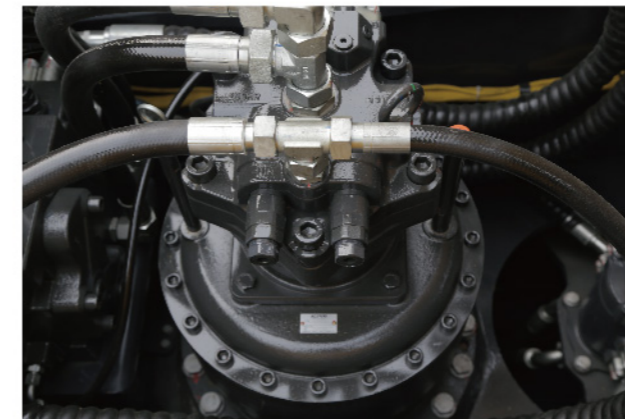


## MORE EFFICIENT

- ▶ The hydraulic system adopts hydraulic components imported from Japan and mature and reliable negative flow control system. Through dual pump converging, more flow distributions are supplied to each operating cylinder through multi-way valve, thus ensuring strong digging force and excellent operation efficiency of the machine.
- ▶ Master pump with larger displacement and new type master valve are adopted, which feature low pressure loss, reliable performance and precise control.



- ▶ Large displacement single rotary motor is adopted, which makes rotary torque increase efficiently and ensures fast startup. Diameter of balls on slewing bearing increases by 20% and diameter of the raceway is enlarged, so that the bearing capacity increases by 15%.



- ▶ Compound system, boom preferential, bucket rod preferential, rotation preferential and hydraulic oil flow regeneration system of the boom and the bucket rod ensure optimum operation performance of the machine.
- ▶ New generation of controller developed independently upgrades the power matching mode and optimizes matching between pump and engine. Therefore, it can take full play of engine power and reduce oil consumption while improving the operating efficiency.
- ▶ Electric harness is coated by using braid technology. The raw materials are nylon wires imported from America, which have high flexibility, high tightness and excellent mechanical property.

- ▶ This machine adopts centralized electric equipment control device which can combine all fuses, circuit conducting devices and relays of the complete machine are into an assembly through printed circuit board and shell. By connecting the connector with harness of the complete machine, the purpose of centralized control, simplified circuit, convenient maintenance and troubleshooting of above electric equipment components can be realized.





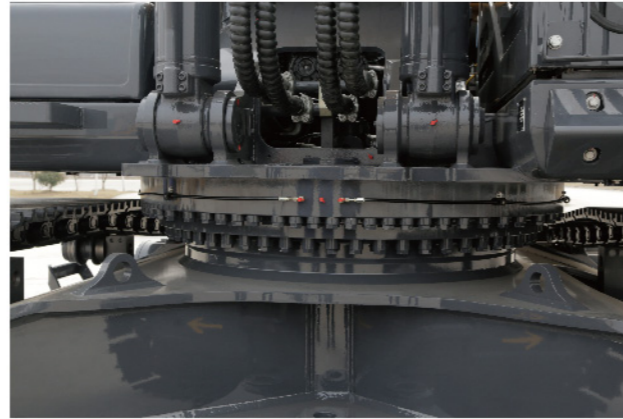
## MORE RELIABLE AND DURABLE

### Main platform

- ▶ The left and right skirt frames adopt D-shaped structural steel design; it can prevent deformation under impact.



- ▶ Slewing bearing is re-designed and matched, and its strength is greatly increased. Stable rotation can be realized even during heavy load operation.

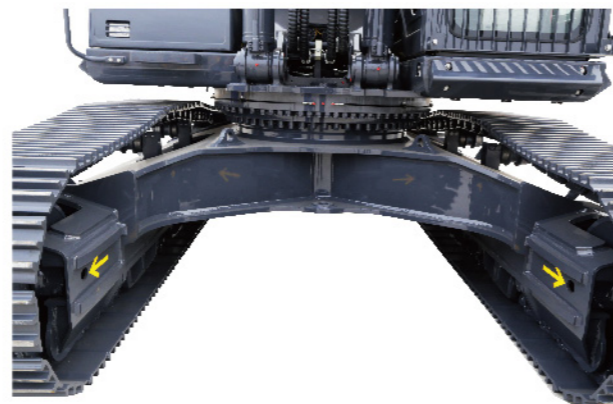


### Chassis

- ▶ Solid lower running part can satisfy requirements of heavy load digging and mining with higher durability, reliability and mobility. Equipped strengthened four-wheel one-belt has excellent performance and more reliable quality. Its service life increases by 25%, thus usage and maintenance cost is overall reduced. Besides, the chassis is lengthened type, so that operating stability is effectively improved and shaking of machine during mining operation is greatly reduced.



- ▶ Strengthened running frame and X-shaped beam structure improve the strength of cross section and disperse the stress on machine body, so that the machine can be used for harder work.



### Strengthened front end working device

- ▶ Key parts of H-shaped boom and bucket rod are all integrated casting structure which features uniform stress and longer service life.



- ▶ Rock bucket with large capacity adopts bi-arc design structure, the digging resistance is reduced; equipped with ESCO tooth, the bucket has stronger penetrating power and better abrasion resistance, and the service of it increases over one time.
- ▶ Connecting parts of working devices adopt reinforced resin gasket imported from Japan, abrasion and noise at connecting parts are reduced. Materials used can be recycled and reused, which is safe and environment friendly.
- ▶ This machine adopts oil cylinder, rigid tube and rubber tube with larger diameter to increase hydraulic oil flow and provide stronger digging force. Oil cylinder uses strengthened support ring structure, so that the service life is greatly extended and faults like oil leakage and Gbrasive DAMAGE can be avoided effectively.





## MORE COMFORTABLE AND SAFER

### Cab

- ▶ Spacious cab and control devices according with ergonomics design concept can provide excellent view for operators and ensure maximum comfort and controllability. The configuration satisfies the requirements of FOPS on protective fence and reinforced cad, so that safety of operators can be ensured at a higher level. Besides, the cab is equipped with running alarm lamp which improves safety of working environment around the machine.



- ▶ The excavator is equipped with 4 rearview convex mirrors in total and also visual rear camera, in this way, view of the driver increases to 360°, so that the operation is safer.
- ▶ Visibility: night lights are LED light which has high luminance and low energy consumption and can work for 20000h continuously.



### Shock absorber

- ▶ Imported four-point supporting silicone oil shock absorber can reduce vibration and noise in the cab effectively and relieve fatigue to the largest extent during operating, thus providing sufficient support for operators during long time work.

### Seat

- ▶ The seat is electric heating seat. It can improve the comfort level of operator effectively when operating in cold areas. There is spring cylinder shock absorbing device installed on underframe of the seat to reduce harmful vibration. At the same time, improved head rest and widened back rest represent the "people-oriented" design concept, provide more comfortable operating experience and improve the working efficiency.



### Monitor

- ▶ Multi-functional color liquid crystal screen can provide comprehensive and legible machine information for operators and can monitor the working status of the engine and the hydraulic system. It can also be used for searching various operation and fault diagnosis data of the machine.
- ▶ Function switches are arranged on the control panel in a centralized way. Selection of switch is very easy by using touch button.



### Counter weight

- ▶ Standard weight-increasing type counter weight improves stability of the machine and relieves operators' fatigue during long time driving.





### MORE INTELLIGENT CONTROL

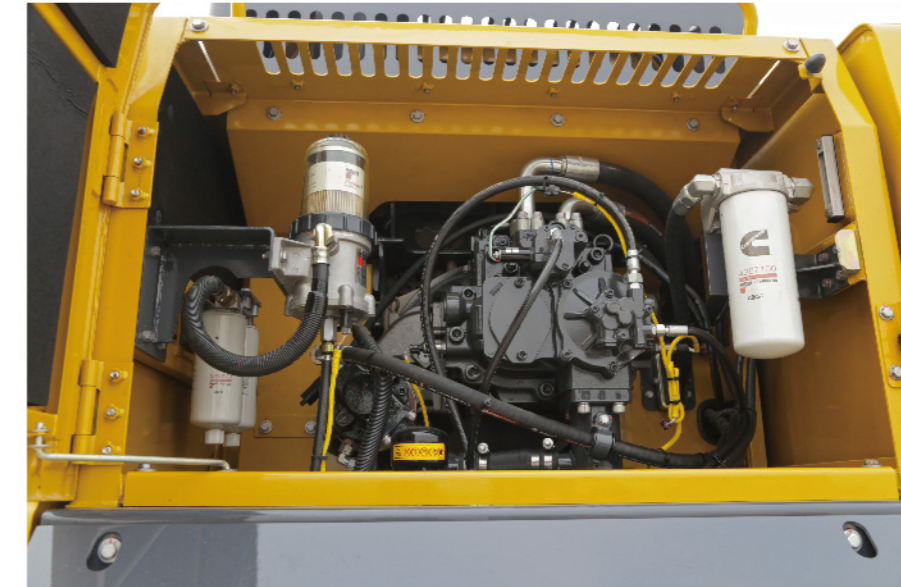
- ▶ Application of independent heat dissipation technology: the master pump is equipped with PTO device for driving the fan motor. It features automatic speed regulation, low rotation speed, low noise and flexible control, and it can also reduce power loss of the engine. Besides, the fan is equipped with reverse rotating function which makes it convenient for radiator cleaning.



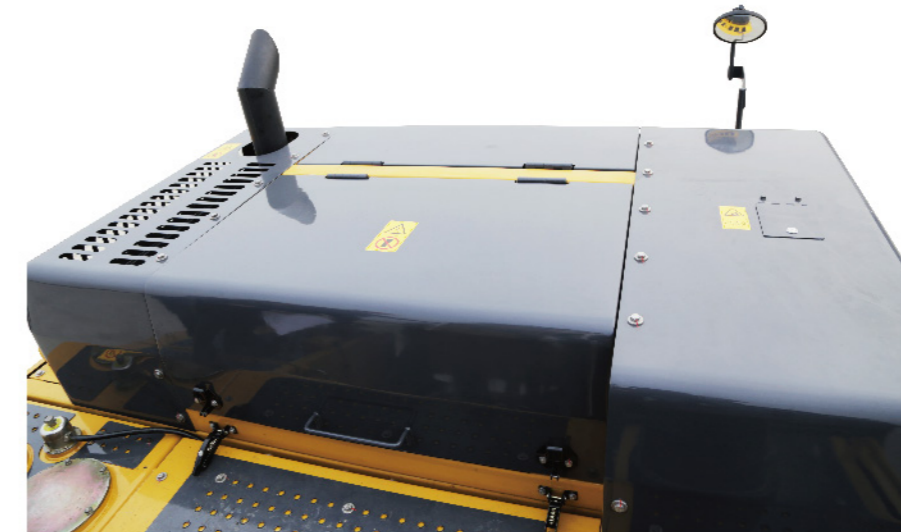
- ▶ The engine adopts high efficient CELECT fuel injection technology and realizes cylinder by cylinder balanced control and full-electronic control. This greatly improves the specified torque curve of fuel economy. With low speed and large torque, low fuel consumption, good economy and sufficient power reserve, the engine is applicable to areas with altitude of 5000m.
- ▶ The hydraulic system adopts flow regeneration energy saving technology, bucket rod converging pressure-dropping technology and valve element opening adaptive technology to further reduce return backpressure, improve digging force and improve heavy load operating efficiency.
- ▶ Application of constant power control technology: the engine can maintain constant power mode within certain speed, so that the machine can still maintain strong power output even under heavy load low speed.
- ▶ Application of altitude adaptive technology: use GPS positioning technology to recognize the altitude of operating area, and then adjust the hydraulic power automatically to match with the power.
- ▶ Application of XEICS system with proprietary intellectual property rights: this system can adjust power of the master pump according to altitude, avoid overload of the engine and realize electronic energy-saving control.

### CONVENIENT MAINTENANCE

- ▶ Engine oil filter, pilot filter, fuel filter, oil-water separator and air filter are installed at places where inspection and replacement can be conducted on ground, which makes maintenance convenient, and also makes maintenance time saved and working efficiency improved.



- ▶ The engine guard adopts upturning structure design, and the open angle is wide, so that it is convenient for maintenance of engine and radiator.



- ▶ There is protective net installed outside the radiator. It can prevent suction of foreign matters such as catkin and make it easier for dismantling and cleaning.
- ▶ The radiator and oil cooler are parallel to each other, which makes it convenient for cleaning and dismantling of the radiator and oil cooler.

**TECHNICAL SPECIFICATIONS**

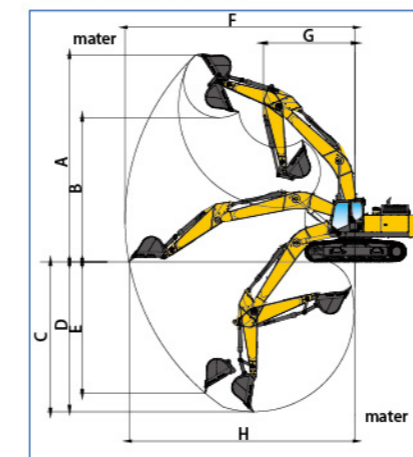
Item	US	Metric
Operation Weight	105820lb	48100Kg
Bucket Capacity	3.01-4.06yd <sup>3</sup>	2.3-3.1m <sup>3</sup>
Model	QSM11	
Direct Injection	√	
Four Strokes	√	
Water Cooling	√	
Turbo-charging	√	
Air to Air Intercooler	√	
No. of Cylinders	6	
Output Power	375/2100hp/(rpm)	280kW/2100rpm
Max. Torque/Speed	1400/1400lb-ft (rpm)	1898N.m/1400rpm
Displacement	660in <sup>3</sup>	10.8L
Traveling Speed	3.35/1.99mph	5.4/3.2km/h
Rotating Speed	9.2r/min	9.2r/min
Gradeability	35°/70%	
Ground Pressure	12.3Psi	85kPa
Bucket Digging Force	68564lbf	305kN
Arm Digging Force	53502lbf	238kN
Maximum Traction	75982lbf	338kN
Rated Flow of Main Pump	2×95 gal/min	2×360L/min
Pressure of Prime Valve	4974/5365psi	34.3/37MPa
Pressure of Travel System	4974psi	34.3MPa
Pressure of Swing System	4495psi	31MPa
Pressure of Pilot System	565.5psi	3.9MPa
Fuel Tank Capacity	191.5gal	725L
Hydraulic Tank Capacity	113.6gal	430L
Engine Oil Capacity	12.7gal	48L

**Working scope**

Item	US	Metric
A Max. Digging Height	427in	10848mm
B Max. Dumping Height	298in	7569mm
C Max. Digging Depth	309in	7845mm
D Max. Digging Depth at the Range of Level	303in	7700mm
E Max. vertical Wall Digging Depth	270in	6870mm
F Max. Digging Reach	475in	12066mm
G Min. Swing Radius	189in	4802mm
H Max Digging Reach	467in	11860mm

**Appearance size**

Item	US	Metric
A Total Length	481in	12225mm
B Total Width	141in	3582mm
C Total Height	152in	3860mm
D Upper Width	122in	3095mm
E Length of Crawler	211in	5353mm
F Total Width of Chassis	132in	3350mm
G Width of Crawler	24in	600mm
H Wheelbase of Crawler	169in	4292mm
I Track Gauge	108in	2750mm
J Ground Clearance of Counterweight	52in	1324mm
K Min. Ground Clearance	20in	519mm
L Min. Tail Swing Radius	150in	3800mm
M Height of Crawler	47in	1198mm

**Working scope**

**Appearance size**
