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XCT80

Truck Crane



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Characteristics and advantages of XCT80 product

XCT80 Truck Crane is an efficient, economic and applicable product newly developed by XuZhou Construction Machinery Group. It uses 4-axle special purpose vehicle chassis, 10-speed transmission, full coverage table design, 5-section U-shaped boom, 2-section truss-type jib, combined counterweight, front swinging outrigger and rear telescopic outrigger, which can realize 360° full circle swinging operations. It adopts pilot liquid proportional control, and has good micro operation characteristics. The crane has wide operating range and strong lifting performance, which makes it more convenient, reliable and safer to use.

Main highlights of the product

Strong lifting performance and excellent travelling performance

It uses 5-section U-shaped main boom, has strong lifting performance and runs ahead of the products of the same tonnage in the same industry. It is configured with 4-axle special purpose vehicle chassis, 10-speed gear and full-bridge suspension, and has excellent travelling performance as well as strong pass ability and maneuverability.

High working efficiency and convenient switch of different conditions

It adopts dual independent winch design where both the main winch and the auxiliary winch can work independently. The rigging adopts quick-plug pocket type rope head with more convenient ratio change and high working efficiency. It uses self-removable combined counterweight, and hydraulic ram for hitching. Hitching of both swing mechanism and counterweight is equipped with remote-control box for control so as to facilitate replacement of different working conditions.

Brand-new power platform with strong power flow and economic fuel consumption

It takes low-speed large-torque engine as the core, combines with the high speed ratio transmission with over gear and takes account of the vehicle's slope performance at low speed and turnaround performance at high speed as well, which has merged the high dynamic property and low fuel consumption together in a perfect way. The engine has two available configuration choices, Weichai and Sinotruk.

K-shaped outrigger arrangement with good working stability

It adopts front swinging outrigger and rear telescopic K-shaped outrigger arrangement, which promotes the outrigger span effectively. It can realize 360° full circle swinging operations with no need of the front fifth outrigger, and has good working stability.

Smooth control and good micro operation characteristics

It adopts high-performance hydraulic-control load-sensitive main valve with a smoother linear gradient of the throttling opening, accurate flow control, smooth operation and good micro operation characteristics. Application of swing cushion technology for unique construction structures enables the swing system to operate smoothly with no shaking.

Comprehensive security protection design and high safety

The front axle adopts pneumatic disc brake, which brakes smoothly and reliably, and makes the driving safer. The crane uses load-limiter multiple loading condition real time monitoring, and is equipped with height limiting and overwinding protection devices as well as combined control, which can prevent misoperation and make the manipulation safer.

Brand-new appearance modeling and all-round personalized design

The crane has a brand-new appearance modeling developed by a special team, having a novel and smooth overall appearance. It adopts full-head luxurious driving cab with spacious cabin space, complete vehicle access ways, sliding door control room and pneumatic pedal design, which gives convenience to the operators to get on and off. Also, it is equipped with independent air conditioner with three-dimensional duct design, which makes the operating environment more comfortable.

Main technical data

(Subject to technical improvement)

| Main technical data in crane operation state | | | | |
|--|--------------------------|---|-------------|-------------------------------|
| Category | | Item | Unit | Parameter |
| Dimensional parameters | | Overall length | mm | 14770 |
| | | Overall width | mm | 2800 |
| | | Overall height | mm | 3890 |
| | | Axle base between axle 1 and axle 2 | mm | 1470 |
| | Axle base | Axle base between axle 2 and axle 3 | mm | 4000 |
| | | Axle base between axle 3 and axle 4 | mm | 1350 |
| Weight parameters | | Dead weight in travelling state | kg | 50000 |
| | Axle load | Axle 1 and axle 2 | kg | 24000 |
| | | Axle 3 and axle 4 | kg | 26000 |
| Power parameter | | Engine model | | WP12.375E40 MC11.40-40 |
| | | Engine rated output | kW/(r/min) | 276/1900 297/1900 |
| | | Engine rated torque | N.m/(r/min) | 1800/1000-1400 1900/1000-1400 |
| Travelling paramete | Maximum travelling speed | Maximum travelling speed | km/h | 80 |
| | | Minimum stable travelling speed | km/h | 3 |
| | Turning | Minimum turning diameter | m | 24 |
| | | Boom head turning diameter | m | 29 |
| | | Minimum ground clearance | mm | 371 |
| | | Approach angle | ° | 17 |
| | | Departure angle | ° | 15.5 |
| | | Braking distance (speed is 30km/h) | m | ≤ 10 |
| | | Maximum gradeability | % | 40 |
| | | Fuel consumption per hundred kilometers | l | 45 |

(Subject to technical improvement)

| Main technical data in crane operation state | | | |
|--|---|----------------------|----------------------------------|
| Category | Item | Unit | Parameter |
| Main performance parameters | Minimum rated lifting load | t | 80 |
| | Minimum rated working radius | m | 3 |
| | Turning radius at swing table tail (auxiliary winch location) | mm | 4670 |
| | Maximum load moment | kN.m | 3000 |
| | | | 1411 |
| | Outrigger span | m | 8.075 |
| | | | 7.9 |
| | Lifting height | m | 12.8 |
| | | | 47.5 |
| | | | 64 |
| | Boom length | m | 12.4 |
| | | | 47.5 |
| | | m | 65 |
| | | | 0、15、30 |
| | Offset angle of fly jib | ° | |
| Working speed parameters | Boom telescopic time | s | 150 |
| | Maximum slewing speed | r/min | 2.0 |
| | Outrigger telescopic time | Horizontal outrigger | One-sided simultaneous extension |
| | | s | 20 |
| | | | One-sided simultaneous retract |
| | | | 20 |
| | Vertical outrigger | s | Simultaneous extension |
| | | | 50 |
| | | s | Simultaneous retract |
| | | | 40 |
| | Lifting speed (single rope) | Horizontal outrigger | Full load |
| | | m/min | 85 |
| | | | Empty load |
| | | | 130 |
| | Vertical outrigger | m/min | Full load |
| | | | 85 |
| | | m/min | Empty load |
| | | | 110 |
| | External radiation noise | dB (A) | ≤122 |
| | Noise in the operating cab | dB (A) | ≤ 90 |

Lifting performance table

Boom lifting performance table (full-extend outrigger 7.9m, counterweight 11.5t)
(In the table, lifting load is in Kg while boom length and radius is in meter)

| Full-extend outrigger 7.9m, counterweight 11.5t, in units of t, °and m | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------|-----------|-----------|--------------|-----------|-----------|--------------|-----------|-----------|--------------|-----------|-----------|--------------|-----------|-----------|--------------|-----------|-----------|--------------|-----------|-----------|--------------|-----------|-----------|--------------|-----------|-----------|
| 幅度 Radius | 12.4 | | | 16.79 | | | 21.17 | | | 25.56 | | | 29.95 | | | 34.34 | | | 38.72 | | | 43.11 | | | 47.5 | | |
| | 起重能力 (kg) | 仰角 (°) | 高度 (m) | 起重能力 (kg) | 仰角 (°) | 高度 (m) | 起重能力 (kg) | 仰角 (°) | 高度 (m) | 起重能力 (kg) | 仰角 (°) | 高度 (m) | 起重能力 (kg) | 仰角 (°) | 高度 (m) | 起重能力 (kg) | 仰角 (°) | 高度 (m) | 起重能力 (kg) | 仰角 (°) | 高度 (m) | 起重能力 (kg) | 仰角 (°) | 高度 (m) | 起重能力 (kg) | 仰角 (°) | 高度 (m) |
| 3 | 80 | 67.8 | 12.8 | 65 | 74.4 | 17.5 | | | | | | | | | | | | | | | | | | | | | |
| 3.5 | 75 | 65.2 | 12.5 | 63 | 72.6 | 17.3 | 45 | 77 | 22 | | | | | | | | | | | | | | | | | | |
| 4 | 68 | 62.5 | 12.2 | 61 | 70.7 | 17.1 | 45 | 75.3 | 21.8 | | | | | | | | | | | | | | | | | | |
| 5 | 58 | 56.9 | 11.5 | 54 | 67 | 16.7 | 43 | 72.5 | 21.5 | 38 | 76.1 | 26.1 | 32 | 78.7 | 30.7 | | | | | | | | | | | | |
| 6 | 51 | 50.8 | 10.7 | 47 | 63.1 | 16.1 | 38 | 69.5 | 21 | 35 | 73.7 | 25.8 | 30 | 76.7 | 30.4 | 24.5 | 78.9 | 35 | | | | | | | | | |
| 7 | 43.5 | 44.1 | 9.6 | 42 | 59 | 15.5 | 34.5 | 66.6 | 20.6 | 32 | 71.3 | 25.4 | 28 | 74.7 | 30.1 | 22.5 | 77.2 | 34.7 | | | | | | | | | |
| 8 | 37 | 36.2 | 8.2 | 36.8 | 54.8 | 14.7 | 31.6 | 63.5 | 20 | 28 | 68.9 | 25 | 25.5 | 72.6 | 29.7 | 20 | 75.4 | 34.4 | 17.9 | 77.6 | 39 | | | | | | |
| 9 | 30.5 | 25.9 | 6.2 | 29.9 | 50.2 | 13.9 | 28.2 | 60.3 | 19.4 | 26.5 | 66.4 | 24.5 | 23.8 | 70.6 | 29.3 | 18.9 | 73.7 | 34 | 16.9 | 76.1 | 38.7 | | | | | | |
| 10 | | | | 24.3 | 45.3 | 12.8 | 24 | 57 | 18.7 | 23.7 | 63.9 | 23.9 | 21.8 | 68.5 | 28.9 | 17.7 | 71.9 | 33.7 | 15.7 | 74.5 | 38.3 | 13.4 | 76.6 | 43 | 12.5 | 78.3 | 47.5 |
| 12 | | | | 17.1 | 33.7 | 10 | 16.9 | 50 | 17 | 17.9 | 58.6 | 22.7 | 18.6 | 64.2 | 27.9 | 16.6 | 68.2 | 32.8 | 14.9 | 71.4 | 37.2 | 13 | 73.8 | 42.3 | 11 | 75.8 | 47 |
| 14 | | | | | | | 12.4 | 42 | 14.9 | 13.3 | 52.9 | 21.1 | 14 | 59.7 | 26.8 | 14.5 | 64.5 | 31.8 | 12.7 | 68.1 | 36.6 | 11 | 71 | 41.5 | 10 | 73.3 | 46.3 |
| 16 | | | | | | | 9.3 | 32.2 | 11.9 | 10.3 | 46.7 | 19.3 | 10.9 | 55 | 25.2 | 11.4 | 60.6 | 30.6 | 11 | 64.8 | 35.7 | 9.5 | 68.1 | 40.6 | 9.0 | 70.7 | 45 |
| 18 | | | | | | | | | | 8 | 39.8 | 16.9 | 8.7 | 49.9 | 23.5 | 9.1 | 56.6 | 29.2 | 9.5 | 61.4 | 34.5 | 8.4 | 65.1 | 39.6 | 8.0 | 68 | 44.6 |
| 20 | | | | | | | | | | | | | 7 | 44.4 | 32.4 | 7.4 | 52.3 | 27.6 | 7.7 | 57.8 | 33.2 | 7.3 | 62 | 38.5 | 7.2 | 65.3 | 43.3 |
| 22 | | | | | | | | | | | | | 5.6 | 38.2 | 18.8 | 6 | 47.7 | 25.7 | 6.2 | 54.1 | 31.6 | 6.4 | 58.9 | 37.1 | 6.4 | 62.5 | 42.4 |
| 24 | | | | | | | | | | | | | | 5 | 42.7 | 23.5 | 5.2 | 50.1 | 29.9 | 5.3 | 55.6 | 35.7 | 5.4 | 59.7 | 41.1 | | |
| 26 | | | | | | | | | | | | | | 4.1 | 37.1 | 20.8 | 4.3 | 45.9 | 27.8 | 4.5 | 52.1 | 34 | 4.7 | 56.7 | 39.7 | | |
| 28 | | | | | | | | | | | | | | 3.2 | 30.5 | 17.3 | 3.4 | 41.3 | 25.5 | 3.7 | 48.4 | 32.1 | 3.9 | 53.6 | 38.1 | | |
| 30 | | | | | | | | | | | | | | | | | | | 2.9 | 36.2 | 22.6 | 3.1 | 44.5 | 30 | 3.3 | 50.4 | 36.3 |
| 32 | | | | | | | | | | | | | | | | | | | | | | 2.6 | 40.3 | 27.5 | 2.8 | 47 | 34.3 |
| 34 | | | | | | | | | | | | | | | | | | | | | | 2.1 | 35.6 | 24.5 | 2.3 | 43.4 | 32 |
| 36 | | | | | | | | | | | | | | | | | | | | | | | | | 1.8 | 39.4 | 29.4 |
| Parts of line | 12 | | | 10 | | | 8 | | | 6 | | | 6 | | | 5 | | | 4 | | | 3 | | | 2 | | |

Total rated lifting load for jib of XCT80 Truck Crane (Counterweight 11.5t)

Total rated lifting load for jib (counterweight 11.5t, full extend outrigger 7.9m), in t

| Boom angle | 47.5m+10.5m | | | 47.5m+17.5m | | |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 0 | 15 | 30 | 0 | 15 | 30 |
| | Lifting load | Lifting load | Lifting load | Lifting load | Lifting load | Lifting load |
| 78 | 6.3 | 4.4 | 4.2 | 3.7 | 2 | 1.6 |
| 75 | 5.8 | 4 | 3.7 | 3.2 | 1.6 | 1.4 |
| 72 | 5.1 | 3.7 | 3.5 | 2.7 | 1.4 | 1.3 |
| 70 | 4.7 | 3.5 | 3.4 | 2.5 | 1.3 | 1.3 |
| 65 | 3.9 | 3.2 | 3 | 1.9 | 1.2 | 1.1 |
| 60 | 2.8 | 2.6 | 2.5 | 1.7 | 1.1 | 1.1 |
| 55 | 2.1 | 1.9 | 1.8 | 1.4 | 1 | 0.9 |
| 50 | 1.2 | 1.1 | 1.1 | 1.1 | | |
| Weight of lifting hook | | | | 250kg | | |

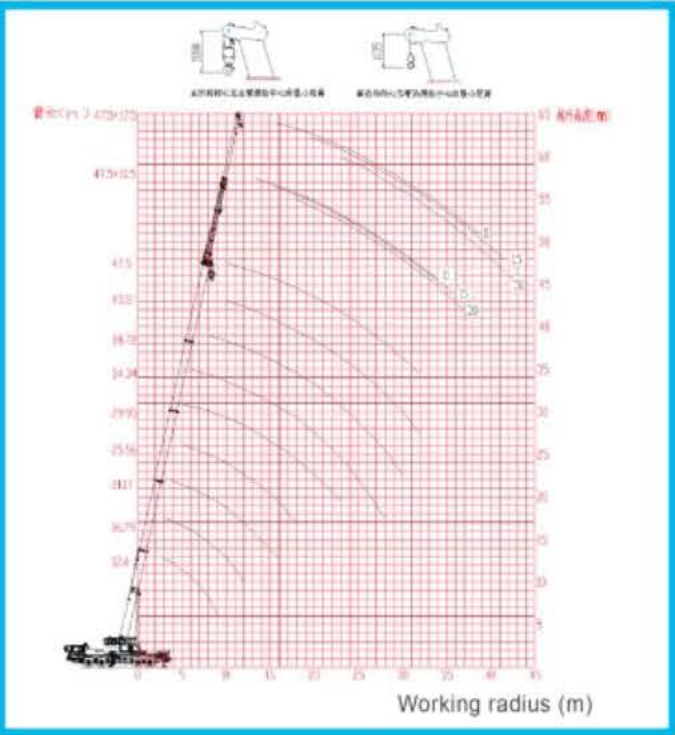
Note 1: The rated lifting load shown in the table means the maximum lifting load that the crane can ensure when it is set on flat and firm ground.

Note 2: The rated lifting load in the table includes the weight of lifting hook and sling.

Instructions

- ▶ In the table, the boom length and radius is in meters, and the lifting load is in tons.
- ▶ The lifting load shown in the table means the total rated lifting load which includes the lifting hook and sling.
- ▶ The crane is allowed to operate only when the wind is below force five.

Lifting Height Curve



Operation range of Outrigger

Operational area drawing of full-extend outrigger

