



## YC-21 Impact Hammer

### Description

Hydraulic impact hammer completes piling task only by working together with power pack and clamp. It is popular pile driver in construction of prefabricating casing pile foundation, large-scale sea-crossing concrete pile bridge and ferry pier. Hydraulic impact hammer is applicable in onshore and offshore pile driving conditions, and also suitable for pile driving under water (above 5m) condition. Yong'an hydraulic impact hammer applies to piling task on soil geology and it can be used to put kinds of piles into soil, such as concrete sheet piles, steel casing piles and concrete piles.

### Parameters of YC-21 Impact Hammer

Impact Energy (KN.m)	315
Working Stroke (mm)	1500
Impact Frequency (per min/max) (BPM)	30/90
Ram Weight(Kg)	21000
Lifting Method	Double hydraulic cylinder lifting
Length (mm)	7188
Width (mm)	1260
Height (mm)	1260

### Working Principle

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Hydraulic impact hammer uses hydraulic oil as the main working medium and depends on hydraulic pressure to lift hammer. When the hammer is lifted up, the oil is drained quickly or the oil is directed to the opposite side. Without oil supply, the hammer falls fast. The pressure produced by hammer falling is used to strike pile.

## **Product Structure**

### **Pressure Accumulator**

It functions high and low pressure. It reduces the shock pressure, and control the ram to drop in a speed 130% of free acceleration.

### **Ram Drop Height Indicator**

Operator can see ram drop height easily and can adjust ram stroke height during the pile driving through remote control box.

### **Cap Housing**

All the cushions are inserted in it. They could protect the hammer structure, components and piles, reducing the noisy.

### **Hose Bracket**

The hydraulic hoses from power pack is mounted to hose bracket so that they could stay firm and strongly.

### **Piston Rod**

It adjusts the range of ram stroke height, moving the ram upwards and downwards.

### **Ram**

It is comprised of one or more ram segments and stands complicated physical and chemical tests before application.

### **Pile Cap**

Connect with cap housing as an auxiliary holder when crane free suspended.

## **Product Feature**

### **Prominent Energy Transferring Rate**

With the help of efficient design of hammer body and the cushion arrangement, impact energy transferred with lower energy loss. That means the job efficiency can be maximized.

Equipped with pressure accumulator system, which could quicken the drop and compensate the energy loss during ram drop.

### **Versatility and Wide Range of Pile Driving Application**

Yongan pile hammer could insert many types and sizes of piles: concrete pile (round shape, square shape and octagonal shape), steel casing pile, H-beam and so on.

Fixed leader type (round shape and square type), crane suspended type, offshore leader type, u-type leads and others can be available.

Not only onshore and offshore pile driving conditions, but also batter piles and under water (above 5m) and sheet piling are applicable.

### **High Blow Rate & Precise Ram Stroke Movement**

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High blow rate is effective for fast pile driving; remote control system could also function for stable ram stroke controlling. Accuracy pile driving without failure is very important for avoiding breakdown due to sudden unstable ram movement.

In case of soft driving condition, small pitching pile driving is operated, that could prevent sudden pile drop to the ground, thus suspended crane or piling rig is safe.

### **Simplicity in Design and Long-Term Reliability**

The adoption of simple design principle allows easy maintenance and quick trouble shooting for operators. Together, easy operation could be realized with user-friendly remote control.

Yongan hydraulic pile hammers are designed and manufactured for long life service with minimal downtime. Precise workmanship is adopted to electric and hydraulic system including hoses, cables, couplings and other related parts, thus the whole system is reliable.

### **Qualified Consumable Parts**

All Yongan hammer choose only qualified consumable parts to assure the long life time of the parts. Thus customer can save the cost from consumable parts.

## **Care and Maintenance**

### **Daily Maintenance**

1. Please keep hydraulic impact hammer clean. Oil stain, dust, rust and water stain should be cleared after each task. The heart of air filter and oil filter should be cleaned or changed regularly.
2. Check all fasteners on hydraulic impact hammer and make sure they are firmly linked. The lubrication point should be lubricated according to requirement.
3. The oil in tank should be kept in normal liquid level and in normal temperature.
4. Please do regular check on oil tank to see if water enters the tank. If water enters the oil tank, please remove water or change the hydraulic oil. If you find oil leak, please deal in time.
5. Please check each instrument of hydraulic impact hammer usually. If any abnormal situation occurs, please repair or change immediately.

### **Scheduled Maintenance**

1. Oil tank should be cleaned regularly. And hydraulic oil should be changed regularly. If hydraulic impact hammer has worked 500 hours in running-in period, please exchange hydraulic oil for the first time. And the second oil replaconcrete should be in three months, and the third in nine months. Later, it will be replaced in line with actual situation.
2. You should check energy accumulator every two months to see if it has enough pressure and if there is air leakage (high charging pressure is 130bar).
3. Check hydraulic impact hammer's pad, cushion pad and wear-resistant belt of feather key regularly, please exchange in time if there is any damage.

## **Notice**

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Make sure hydraulic impact hammer of specific type can meet construction requirements. And pile cap can be customized as demanded.

### **Payment and Delivery**

30% deposit payment should be paid after assigning the contract. Full payment should be paid before delivery. Machine package and delivery can be arranged as you require.

Yong'an Machinery has 27 years' experience in hydraulic impact hammer manufacturing. Our products take up to 70% of the whole China market. Our hydraulic piling hammer is applied in more than 300 large bridges, such as Hangzhou Bay Bridge, Yellow River Bridge and Jintang Cross-sea Bridge. Yong'an piling rigs are widely used not only in China but also in oversea market such as Japan, Korea, Taiwan, Indonesia, Malaysia, Ecuador, Russia, Libya, Vietnam Ghana and Philippines. With powerful technical support, we successfully put new models into market. Our company has experienced technical team and we can design and manufacture the most proper hammer according to your requirements.

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