创始于1985
Since

电动振动锤
Electric Vibro Hammer

永安机械
YONGAN MACHINERY

2024目录
Catalogue

永安机械
YONGAN MACHINERY

温州永安重工科技有限公司
WENZHOU YONGAN HEAVY INDUSTRY MACHINERY CO.,LTD
温州瓯江口分公司地址：
浙江省温州海洋经济发展示范区灵昆街道昌绣路58号
58 Changxiu Road, Lingkun Street, Wenzhou Marine Economic Development Demonstration Zone, Zhejiang Province

芜湖永安重工科技有限公司
WUHU YONGAN HEAVY INDUSTRY TECHNOLOGY CO., LTD
安徽分公司地址：
安徽省芜湖市湾沚区芜湖机械工业园东区
EAST DISTRICT OF WUHU MACHINERY INDUSTRIAL PARK, WANZHI DISTRICT, WUHU CITY, ANHUI PROVINCE.

福建新永安机械有限公司
FUJIAN NEW YONGAN MACHINERY CO.,LTD.
福建分公司地址：
福建省福鼎市贯岭工业区
Guanling Industrial Zone,Fuding,Fujian,China.

浙江永安工程机械有限公司塘下分公司
ZHEJIANG YONG AN CONSTRUCTION MACHINERY CO., LTD. TANGXIA BRANCH
浙江省瑞安市塘下镇海安海阳工业区青岙山头88号
No.88 Qingao,Haiyang Industrial Zone,Tangxia,ruian,China.
电话（Tel）:86-577-65278666
传真（Fax）:86-577-65271769

浙江永安工程机械有限公司
ZHEJIANG YONGAN CONSTRUCTION MACHINERY CO., LTD
公司地址：浙江省温州经济技术开发区滨海一道1458号
Address: No. 1458, Binhai 1st Road, Wenzhou Binhai Industrial Zone, Zhejiang Province
电话(Tel):400-826-9187
邮箱(email):yongan@yonganjx.cn
http://www.yonganjx.cn

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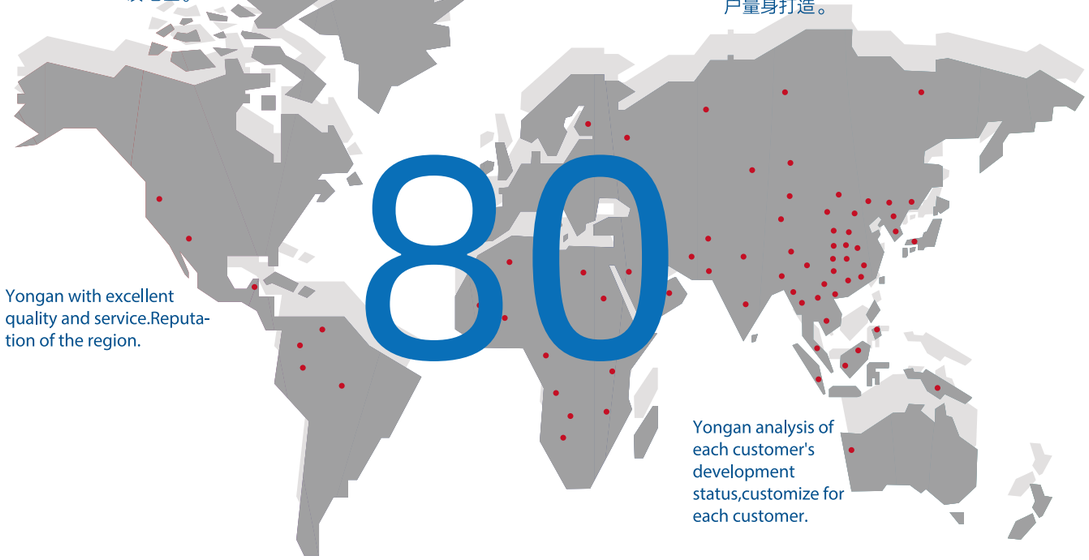

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change,you can see

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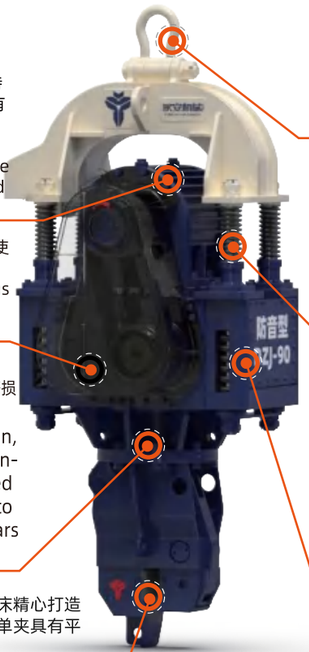


永安机械振动锤系列产品所采用的电动机为耐高加速度的特殊耐振电机，其轴承处允许的最高温度可达95摄氏度，且有着能短时间过载使用和较高的启动转矩的优点。
Yongan vibro hammer using the shock-proof motor the bearing could working upto 95 degree temperature, and could overload in short period of time and high torque.

采用FAG X-life系列振动锤专用调心滚子轴承，提高使用寿命5倍以上
FAG X-life series special spherical roller bearings for vibratory hammer machine, improve the life time more than 5 times

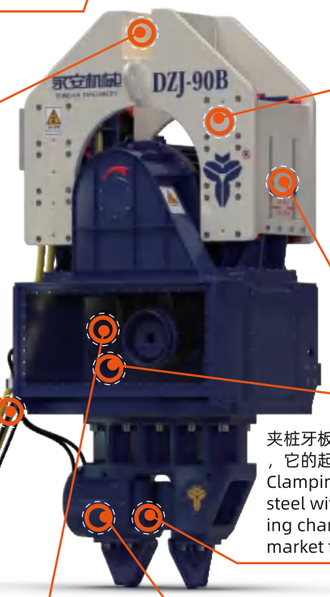
油污沉淀槽设计，能使意外掉入箱体的异物及设备正常磨损产生的污垢沉淀下来不会对齿轮或轴承造成损害。
Lubrication oil sludge sedimentation tank design, this design can make the foreign objects accidentally dropped into the box and the dirt generated by the normal wear and tear of the equipment to settle down without causing damage to the gears or bearings.

夹桩牙板由超高强度的专用合金钢用高精度车床和磨床精心打造而成，它的起耐磨特性多年来受到市场一致的肯定。单夹具有平型牙板和弧型牙板可选，以适应不同桩型。
Clamping jaw plate is made of ultra-high-strength special alloy steel with high-precision lathe and grinder, and its wear-resisting characteristics have been consistently affirmed by the market for many years. The single clamp is available with flat jaw plate or arc jaw plate to adapt to different pile sharp.

可靠的挂钩设计，在振动锤吊装和拔桩过程中更加可靠。
Reliable hook design, keep ultra security during suspending and extracting pile work。

电缆线由超多股纯铜组合而成，在可通过大电流的同时还具有超强柔韧性和耐磨性，使用方便更省心。五层设计的液压油管使用起来更耐磨，不易损坏。
The cable is composed of super multi-strand pure copper, which can pass a large current and also has super flexibility and wear resistance, which is convenient and worry-free to use.suspending and extracting pile work。
Five-layer design hydraulic oil hoss, more durable in use, not easy to damage

采用和本公司液压振动锤相同的偏心块总成平台设计，使得齿轮箱整体更紧凑，更易于生产和维护。高频率转速的振动锤可使饱和沙土的液化过程加速，土壤的阻力也会相应快速减低，更能有效提高桩在土壤中的运动加速度。
Using the same eccentric block assembly platform design as our company's hydraulic vibratory hammer, the entire gearbox is more compact and easier to produce and maintain. The vibratory hammer with high frequency speed can accelerate the liquefaction process of saturated sandy soil, and the resistance of the soil will be rapidly reduced accordingly, which can effectively improve the acceleration of the movement of the pile in the soil.



可靠的挂钩设计，在振动锤吊装和拔桩过程中更加可靠。
Reliable hook design, keep ultra security during suspending and extracting pile work。

用高质量的合金弹簧钢打造而成，具有超高的耐疲劳特性，尤其是在拔桩时，它的高弹性配合偏心块持续提供高性能的拔桩力。上减振弹簧根部设计有独特的消音套，能有效防止噪音产生。
Made of high-quality alloy spring steel, it has ultra-high fatigue resistance, especially when pulling out piles, its highly elastic eccentric block continuously provides high-performance pile extracting pulling force. The root of the upper damping spring is designed with a unique muffler sleeve, which can effectively prevent noise.

独特的弹簧减振室设计，把下减振弹簧包裹起来，加上全包裹的皮带和轮。这样的设计能大量减少噪音的外泄，做到防音的效果。
弹簧减振室的边角采用大折弯角的设计，让整个齿轮箱总成具有更高的机械强度。
Unique spring damping chamber design wraps the lower damping spring, plus fully wrapped belts and pulleys. This design can greatly reduce the leakage of noise and achieve the effect of soundproofing.
The corners of the spring damping chamber are designed with large bending angles, so that the entire gearbox assembly has higher mechanical strength.

高频电动振动锤采用减振胶代替传统的弹簧设计。它利用橡胶的横剪切弹力大大增强拔桩力的同时更有效降低打拔桩时的工作噪音，并且大幅度减少振动锤的总高度和重量，让吊机吊装振动锤时更轻松方便。
The high-frequency electric vibrating hammer uses rubbr damping parts instead of the traditional spring design. It utilizes the transverse shearing elastic force of rubber to greatly enhance the pile extractin pulling force and at the same time more effectively reduces the working noise during pile pulling, and greatly reduces the total height and weight of the vibrating hammer, making it easier and more convenient for the crane to hoist the vibrating hammer.

独特的减振胶保护销设计，能有效保护减振胶在拔桩时过度拉伸造成减振胶损坏，同时保护销设计有负载可视化标尺，随时观察到振动锤的负载情况。
The unique design of the vibration-damping rubber protection pin can effectively protect the vibration-damping rubber from being damaged due to excessive stretching of the vibration-damping rubber when pulling out the pile.

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Clamping jaw plate is made of ultra-high-strength special alloy steel with high-precision lathe and grinder, and its wear-resisting characteristics have been consistently affirmed by the market for many years.

一体式设计的液压夹具，整体性更强。在提高液压夹具夹持力的同时，保持更小的体积。
The integrated hydraulic clamp is more integrated. Maintaining a smaller volume while increasing the holding force of the hydraulic gripper.

SCOPE
适用范围

混凝土预制桩

振动锤配上相对应的夹桩器后，可沉拔各类混凝土预制桩及各类钢桩；与桩架配套后，可用于沉混凝土灌注桩、混凝土扩底桩（大蒜头桩）、石灰桩、砂桩、碎石桩。
Pre-made concrete pile: with custom designed concrete clamp, vibratory hammer can be used for various types of pre-made concrete piles, cast-in-place concrete pile, concrete expanded bore pile, lime pile, stone column pile.

围堰

最常见的是钢板可随时纠偏等特点，拔桩相比较于挖机锤要更为迅速，大大节约了施工时间，围堰作业中，振动锤在此类工程施工中具有施工效果好，由此将其使用寿命至少提高70%。降低施工成本。
Cofferdam: the vibratory hammer use to drive sheet pile to build the coffer wall. It is high efficiency to drive and extract sheet piles.

栈桥工程及海上作业平台

主要用于搭建桥梁、码头、港口等等涉水工程前期的一个施工通道或平台，振动锤在此过程中有着不可忽视的作用，用振动锤打桩搭建的栈桥以后拆除也非常便捷，如用其他设备施工完成的栈桥，不利于施工完毕后拆 除，造成资源及经济的浪费。
Trestle work and offshore working platform: drive sheet pile or casing pile to build working passage and platform before build bridge, dork, port etc. it is easy to build and easy to remove.

海上风电单桩或群桩基础

振动锤在海上风电基础工程施工中具有沉桩效率高，对环境影响小，及可随时纠偏的特点。
Wind mill single pile and group pile: it is efficient to use vibratory hammer drivecasing pile into the sea, environment friendly and easy to adjust.

PRODUCT TYPES
产品类型

普通频率振动锤系列
NORMAL FREQUENCY VIBRO HAMMER

标准频率系列振动锤是我公司生产的振动锤里最为主要的一种，它同时兼顾沉桩与拔桩，相比高频锤来讲，相对较大的偏心力矩使其在沉 桩过程中具有优势，同时，相对低频率锤来讲，较高的频率使其在拔 桩过程中有着较高的效率，适用于除岩层外的任何地质情况。
Normal frequency vibro hammer is suitable to drive and extract piles.lt suits for different geological situation except the hard rock layer.

变频振动锤系列
FREQUENCY CHANGE VIBRO HAMMER

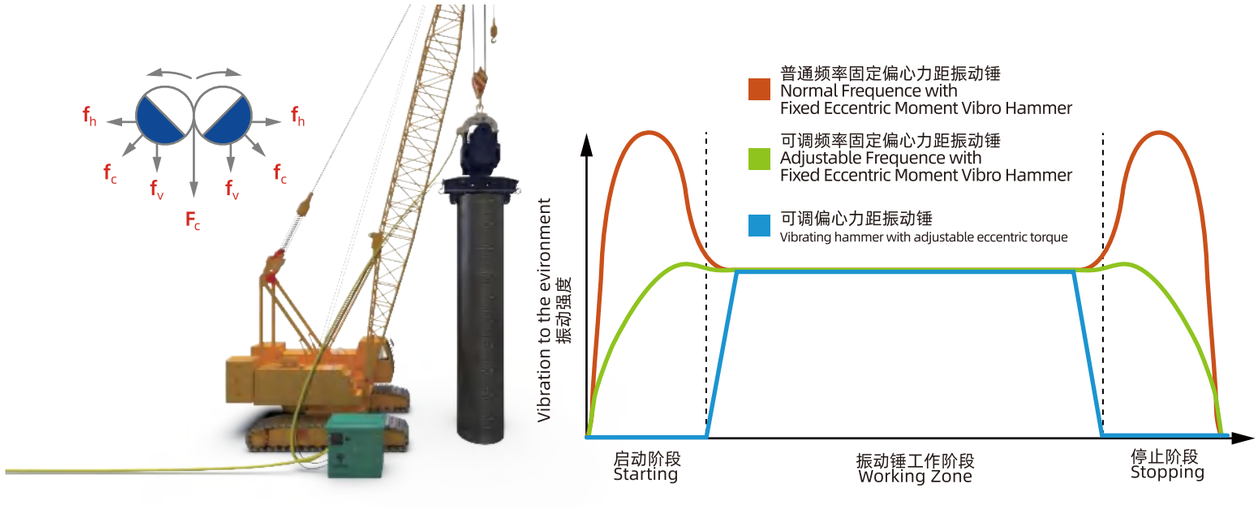
变频振动锤是我公司的一大特色产品，采用变频器可以使振动锤实现真正的零电流启动，解决了振动锤带载启动的问题，对电源的要求也 相对较其他固定频率的振动锤低一些。此外，由于各种土壤具有着不同的固有频率，频率的可调节性可以使振动锤在对应不同的地质情况 下具有更高的沉拔桩效率；相对较低的电源容量即能满足要求，同时也节约了施工的周期，降低了直接成本。
Zero current start mode, it solves the problem of load start, lower requirement for the power generator. Frequency change model could adjust frequency according to different soil layer frequency，it saves time energy and cost.

低频振动锤系列
LOW FREQUENCY VIBRO HAMMER

我公司生产的低频振动锤在沉桩时具有非常强大的优势，因为偏心力矩较大使其具有相对较大的振幅，沉桩效果更为明显，尤其对于一些不考虑拔起或拆除桩的施工工艺来讲，低频振动锤是您最好的选择。
The low frequency vibratory hammer is best choice to drive piles in a stable and efficient path.

高频减震胶系列
HIGH FREQUENCY ELASTOMER SERIES

我公司生产的高频减震胶振动锤具有频率高的特点，可使饱和沙土的液化加速，土壤阻力相应地快速减小，能更有效地提高桩的运动加速度，从而使沉桩效果得以显著提高。更低的噪音与更好的减震效果， 由于减震胶有着比弹簧更强的减震作用，能有效减少设备对装体以及 周围建筑物的有害共振；减震胶对噪音的吸收能力较好，加上减震胶 在机器工作时本身是无噪音的，从而大大减少了噪音污染。定矩可 调，该系列产品可通过调节偏心力矩来改变激振力，可分别用于不同 的砂土环境沉桩与拔桩，能适应各种土壤环境，为客户大大节约了设 备成本。
The low frequency vibratory hammer is best choice to drive piles in a stable and efficient path.This type of vibratory hammer with the high frequency feature, it can accelerate liquefy soil, reduce soil resistance, high efficiency and noise reduction. This model also can adjust eccentric moment, which is good for the silty day



WORKING PRINCIPLE
工作原理

振动锤是利用共振理论设计的。当桩的强迫振动频率与土壤颗粒的振动频率一致时，土壤颗粒产生共振，此时，土壤状态，沉桩阻力尤其侧面阻力迅速减小，桩在自重作用下下沉。由于振动锤靠减小桩与土壤间的摩擦力达到沉桩的目的，所以在桩和土壤间的摩擦力减小的情况下，可以用稍大于桩和桩身的力即可将桩拔起。因此，振动锤发展迅速并广泛用于沉拔桩工程中。
Yongan vibro hammer using the shock-proof motor the bearing could working upto 95 degree temperature, and could overload in short period of time and high torque, wedge shaped belt is high strength. Vibratory hammer is designed as per resonance theory. When the pile forcing vibratory frequency is consistent with the soil vibratory frequency.the soil will occur resonance phenomenon. Meanwhile, the largest amplitude, sufficient vibratory frequency and acceleration will break the cohesion between the soil and pile. In that case the pile will disintegrate from the soil in a short time.Pile-sinking resistance especially side resistance will be reduced very quickly. Then the pile sinks under the gravity. Depend on reducing The friction between the pile and the soil to sinking the pile. So it is effective to extract the pile only using a little more force than the pile self weight. As a result ,the vibratory hammer develops rapidly and broadly used in pile-driving and pile-pulling construction.

主要参数：振幅A、激振频率ω、偏心力矩M，激振力F、参振重量Q、功率N

1、振动功率N的确定。振动功率N的计算公式为：N=K·M·n/9550（Nm）公式中，n为转速；K=1.25。

2、偏心力矩M的确定。振动锤偏心力矩越大克服硬质土层的能力越强，当已知振幅和参数总重量Q（桩体重量和振动锤重量）时，可以算出偏心力矩：M=Q·A（N·m）

3、激振频率ω的确定。振动锤的激振频率与振动系统的固有频率密切相关，当激振频率接近振动系统的固有频率时，振动沉桩达到最大效果。而振动系统的固有频率不仅和振动锤参数有关，还与土壤的参数有关，不同地层土壤的自振频率有着很大的差别。下面表格是根据对年施工经验得到的不同地层振动锤最佳频率范围。

试验证明，其他参数一定的情况下，增大振动频率可以使得饱和沙土的液化加速，土壤阻力相应的快速减少，比去提高振幅更能有效提高桩的运动加速度，从而使沉桩效率得以显著提高，但激振频率提过高会引起输出功率过大，所以确定激振频率时还应综合考虑。

4、参振重量Q的确定。振动锤除了要有必要的振幅和加速度，还必须有一定的参振重量以克服沉桩时的阻力，桩在土中的静阻力R与土层的贯入标准值N和截面积S之间的关系为:R=4N·S（Kn）因此，桩在受到振动而使摩擦力显著降低时，桩就可以被沉入到与参振重量相等的桩端阻力处，即Q=4N·S

5、激振力F的确定。激振力F是反映振动锤综合能力的参数，激振力F必须大于桩与土壤之间的静摩擦力f，在沉桩过程中会在激振力作用下急剧下降。有振动作用时桩与土壤之间的摩擦力用f'表示，则：F≥F'=μf（KN）式中，M为振动作用时摩擦力的降低系数，主要受振动加速度大小的支配。试验表明，振动加速度超过10倍的重力加速度后，μ的变化十分微小，μ及f'趋于定值。

6、振幅A的确定。振幅越大，桩的沉入速度越大。当振幅很小时，桩不会下沉，只有振幅大于一定的值时，桩才可能下沉，这h个数值称为起始振幅A0，随着振幅加大，沉桩速度也加快，直到趋于一定的极限值Ac，所以振幅的范围是A0＜A＜Ac。起始振幅A0可采用土壤的贯入标准值N，通过公式来计算：A0≥N/12.5-3（mm）。

Parameters： **Amplitude A**， **Frequency ω**， **Eccentric moment M**，
Centrifugal force F, **Vibrating weigh Q**， **Vibrating power N**

1 .Figure out vibrating power N. The formula as follow:N=K·M·n/9550 In formula, n refers to the rotary speed; K=1.25

2.Figure out eccentric moment M: The greater the eccentric moment of the vibratory hammer the stronger the ability to break through the hard soil layer. After amplitude and participant weight Q (pile weight and vibrating weight) are known, we could calculate the eccentric moment： **M=Q·A (N·m)**

3.Figure out frequency ω.The frequency of the vibratory hammer is closely related to the nature frequency of the vibratory system.When the frequency approaches the nature frequency of the vibratory system, the vibratory piling hammer will achieve the best pile driving effect. The nature frequency of the vibratory system is not only related to the parameters of the vibratory hammer but also the soil parameters. The natural vibration frequency of the soil varies in different soil layers. The below table illustrates the best frequency range of vibratory hammer applied with different soil layers after years of construction experience.

The test proves that under the condition of certain other parameters, increasing the vibration frequency can accelerate the liquefaction of saturated sandy soil, and the soil resistance will decrease rapidly. However, if the excitation frequency is increased too high, the output power will be too large, so it should be considered comprehensively when determining the excitation frequency.

4.The determination of the vibration weight Q. In addition to the necessary amplitude and acceleration, the vibrating hammer must also have a certain vibration weight to overcome the resistance during pile driving. The static resistance R of the pile in the soil is between the standard value N of the penetration of the soil layer and the cross-sectional area S The relationship is: **R=4N·S (Kn)** Therefore, when the pile is subjected to vibration and the friction force is significantly reduced, the pile can be sunk to the pile end resistance equal to the participating vibration weight, that is, **Q=4N·S**

5.Determination of exciting force F. The exciting force F is a parameter reflecting the comprehensive ability of the vibrating hammer. The exciting force F must be greater than the static friction force f between the pile and the soil.
During the process of the pile, it will drop sharply under the action of the exciting force. When there is vibration, the friction force between the pile and the soil is represented by f', then: F ≥ F' = μf (KN) In the formula, M is the reduction coefficient of the friction force under the action of vibration, which is mainly dominated by the magnitude of the vibration acceleration. Experiments show that when the vibration acceleration exceeds 10 times the gravitational acceleration, the change of μ is very small, and μ and f' tend to be constant.

6.Determination of Amplitude A. The greater the amplitude, the greater the sinking speed of the pile. When the amplitude is very small, the pile will not sink. Only when the amplitude is greater than a certain value can the pile sink. This h value is called the initial amplitude A0. At a certain limit value Ac, the range of the amplitude is A0<A<Ac. The initial amplitude A0 can be calculated by the standard value N of soil penetration: A0≥N/12.5-3 (mm).

激振频率参考 Reference For Centrifugal Frequency

Soil Layer 地层类型	Saturated Sand 含饱和水的砂土	Plastic Clay Soil and Sand Clay Soil 塑性粘土及含砂粘土	Hard Clay Soil 坚实粘土	Gravel Clay Soil 含砾石粘土	Sandy Gravel Soil 含砂的砾石土
Best Frequency 最佳频率 rpm	950-1900	860-950	670-720	570-670	480-570

土壤的贯入标准值 Soil Penetration Standard Value

土壤种类/Soil Type	N值 / N Value	土壤种类/Soil Type	N值 / N Value
很疏松的砂土 / Very Loose Sandy Soil	0-4	软粘土/Soft Clay Soil	2-4
疏松的砂土 / Loose Sandy Soil	4-10	中等硬度的粘土/Medium-Hardness Clay Soil	4-8
中等密度的砂土土/ Medium-density Sandi Soil	10-30	硬粘土Hard Clay Soil	8-15
密实的砂土 / Strong-Density Sandy Soil	30-50	很硬的粘土Very Hard Clay Soil	15-30
很密实的砂土 / Very Strong- Density Sandy Soil	>50	非常硬的粘土Extremely Hard Clay Soil	>30

DZ-45

DZ-60

DZJ-90

DZJ-90B

主要参数
Technical DaTa

DZJ-120

DZJ-135

DZJ-150

DZJ-180

型号Model	DZ-45	DZJ-60	DZJ-90	DZJ-90B
电机功率 Motor Power (KW)	45	60	90	90
静偏心力矩 Eccentric Moment (kg.m)	29	50	58	48
激振力 Centrifugal Force (kN)	380	492	0-579	0-580
转速 Frequency (rpm)	1100	960	0-960	0-1060
最大振幅 Max. Amplitude (mm)	9	12	11.5	11
允许最大振拔桩力 Max. Line Pull (kN)	180	215	254	300
长 Length (mm)	1600	1600	1700	1600
宽 Width (mm)	1050	1130	1400	1200
高 Heigh (mm)	2000	2150	2350	2200
重量 不含夹具W/O Clamp Weight (kg)	3500	4500	5700	5200
匹配电缆线 Wire Cable (mm^2)	25	35	50	50
可匹配夹具 Clamp	单夹具 Single Clamp	单夹具 Single Clamp	单夹具、双夹具 Single 、Double Clamp	单夹具、双夹具 Single 、Double Clamp
标配双夹具可夹幅度Clamp Scope (mm)	/	/	530-1500	530-1500
发电机组Generator Capacity (KW)	150	200	250	250
吊车起吊能力Min. Crane Capacity (Ton)	25	35	50	50

型号Model	DZ-120	DZJ-135	DZ-150	DZJ-180
电机功率 Motor Power (KW)	120	135	150	180
静偏心力矩 Eccentric Moment (KGM)	76	82	114	126
激振力 Centrifugal Force (kN)	0-823	0-883	0-1150	0-1390
转速 Frequency (rpm)	0-1000	0-1000	0-960	0-1000
最大振幅 Max. Amplitude (mm)	12	13	15	12.7
允许最大振拔桩力 Max. Line Pull (kN)	392	420	450	530
长 Length (mm)	1850	1900	1950	2100
宽 Width (mm)	1350	1450	1400	1650
高 Heigh (mm)	2500	2520	3025	2500
重量 不含夹具W/O Clamp Weight (kg)	7000	7200	8700	11000
匹配电缆线 Wire Cable (mm^2)	70	70	70	95
可匹配夹具 Clamp	单夹具、双夹具 Single 、Double Clamp	单夹具、双夹具 Single 、Double Clamp	单夹具、双夹具 Single 、Double Clamp	单夹具、双夹具 Single 、Double Clamp
标配双夹具可夹幅度C lamp Scope (mm)	600-2000	600-2000	600-2500	700-2500
发电机组Generator Capacity (KW)	300	300	350	400
吊车起吊能力Min. Crane Capacity (Ton)	70	70	80	100

DZJ-200

DZJ-240

DZJ-300

型号Model	DZJ-200	DZJ-240	DZJ-300
电机功率 Motor Power (KW)	200	240	300
静偏心力矩 Eccentric Moment (KGM)	163	184	220
激振力 Centrifugal Force (kN)	0-1600	0-1822	0-2185
转速 Frequency (rpm)	0-960	0-960	0-960
最大振幅 Max. Amplitude (mm)	16	14	16.5
允许最大振拔桩力 Max. Line Pull (kN)	588	638	686
长 Length (mm)	2150	2300	2400
宽 Width (mm)	1600	1620	1800
高 Heigh (mm)	3250	3300	3560
重量 不含夹具W/O Clamp Weight (kg)	11500	14500	15000
匹配电缆线 Wire Cable (mm²)	95	120	120
可匹配夹具 Clamp	双夹具、四夹具 Doubl, Quadruple Clamp	双夹具、四夹具 Double, Quadruple Clamp	双夹具、四夹具 Doubl, Quadruple Clamp
标配双夹具可夹幅度C lamp Scope (mm)	800-3000	800-3000	800-3000
发电机组Generator Capacity (KW)	450	600	600
吊车起吊能力Min. Crane Capacity (Ton)	120	130	130

DZJ-400

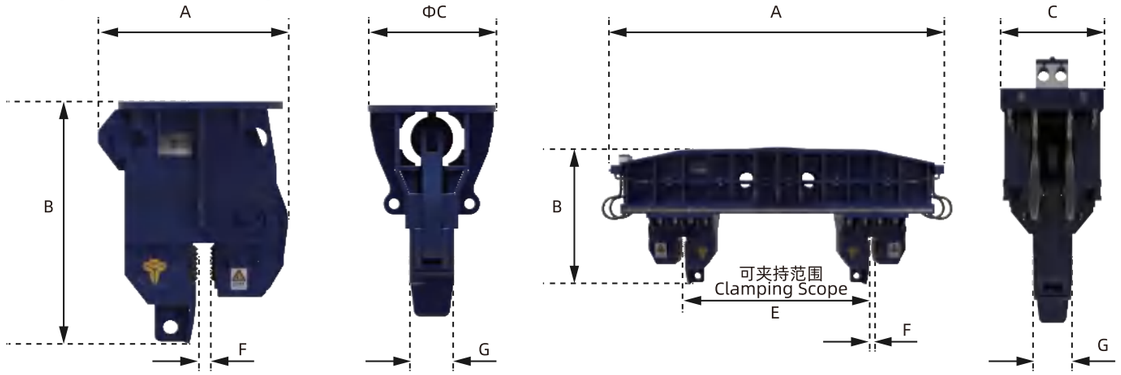
DZJ-480

DZJ-600

型号Model	DZJ-400	DZJ-480	DZJ-600
电机功率 Motor Power (KW)	400	480	600
静偏心力矩 Eccentric Moment (KGM)	324	368	440
激振力 Centrifugal Force (kN)	0-3250	0-3644	0-4370
转速 Frequency (rpm)	0-960	0-960	0-960
最大振幅 Max. Amplitude (mm)	16	14	16.5
允许最大振拔桩力 Max. Line Pull (kN)	850	1176	1352
长 Length (mm)	2300	4500	4600
宽 Width (mm)	2000	2200	2200
高 Heigh (mm)	4250	4500	4600
重量 不含夹具W/O Clamp Weight (kg)	25000	30000	30500
匹配电缆线 Wire Cable (mm²)	120	120	150
可匹配夹具 Clamp	双夹具、四夹具 Double, Quadruple Clamp	四夹具 Quadruple Clamp	四夹具 Quadruple Clamp
标配双夹具可夹幅度C lamp Scope (mm)	800-3000	/	/
发电机组Generator Capacity (KW)	800	800	800
吊车起吊能力Min. Crane Capacity (Ton)	200	200	200

液压夹具

Hydraulic Clamp



单夹具　　双夹具

单夹具 Single Hydraulic Clamp

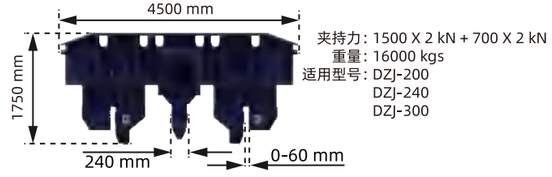
型号Model	夹持力 Clamping Force (kN)	A mm	B mm	ΦC mm	F mm	G mm	重量 Weight(kg)	适用锤型 Applicable hammer
D-60	600	630	920	540	0-45	180	485	DZ-45
D-70	700	710	1100	540	0-50	225	750	DZ-60
D-85	850	850	1150	715	0-50	250	1050	DZJ-90
D-150	1500	870	1400	800	0-50	250	1650	DZJ-120/DZJ-135/DZJ-150
D-180	1800	1100	1500	1000	0-50	300	2300	DZJ-180/DZJ-200

* 备注：可选配弧形夹板用于夹持小于管桩　Note: Arc Clamp Plate on optional for small size pipe piles

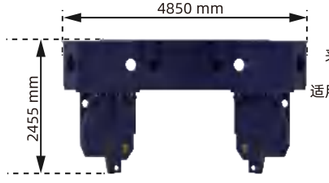
双夹具 Double Hydraulic Clamp

型号Model	夹持力 (kN) Clamping Force	A mm	B mm	C mm	E mm	F mm	G mm	重量 Weight(kg)	适用锤型 Applicable hammer
XS-60B	600 X 2	2400	1550	900	530-1500	0-50	220	2600	DZJ-90
XS-60A	600 X 2	2900	1550	900	600-2000	0-50	220	2950	DZJ-120/DZJ-135
QS-85	850 X 2	3400	1500	900	700-2500	0-50	270	4200	DZJ-180
QS-150	1500 X 2	3950	1700	1100	800-3000	0-50	270	6300	DZJ-200/DZJ-240/DZJ-300
QS-70	700 X 2	3400	1400	900	600-2500	0-50	270	4000	DZJ-150

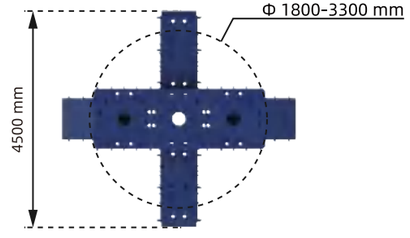
四夹具 Quadruple Hydraulic Clamp

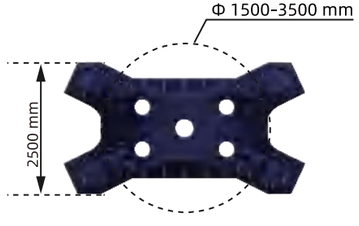


夹持力：1500 X 2 kN + 700 X 2 kN
重量：16000 kgs
适用型号：DZJ-200
DZJ-240
DZJ-300



夹持力：1500 X 4 kN
重量：20000 kgs
适用型号：DZJ-240
DZJ-300
DZJ-400
DZJ-480
DZJ-600





*** 水泥桩夹具、木桩夹具或者碎石桩可根据要求定制**
Concrete clamp, lumber pile clamp and stone column clamp can be custom made according to the customer's requirement

电液控制柜

Electrical Hydraulic Control Cabin

永安机械振动打桩锤适配的综合控制柜或者变频零启动的调频控制柜参数
Yongan Electric Hydraulic cabin for electric vibro piling hammer with integration control and frequency adjustable zero current start control

控制柜容量 Power Capacity	75 kw	90 kw	132 kw	185 kw	310 kw	400 kw	500 kw
适用型号 Applicable Model	DZ-45	DZ-60	DZJ-90 DZJ-90B	DZJ-120 DZJ-135 DZJ-150	DZJ-200 DZJ-180 DZJ-240	DZJ-300	DZJ-400
国内配置主要电气元件 Electric Parts for Domestic Market	均采用国内知名品牌电气原器件 Famous Domestic Brand in China market						
出口配置主要电气元件 Electric Parts for Oversea Market	采用西门子、施耐德等国际知名品牌电气原器件 Simens, Schneider etc. international top brand electric components						
液压油泵 Hydraulic Oil Pump	均采用意大利品牌液压油泵 Italian Brand hydraulic pump						
控制方式 Operate Method	有线和无线控制方式 Both wire and wireless control						
设备备用照明装置 Lighting Equipment	LED灯 Led Light						

AFTER-SALES SERVICE
售后服务

永安机械作为振动桩锤行业专家有着完善的租售服务系统，能方便快捷地为客户提供最优质的服务。
As an expert in the vibratory pile hammer industry, Yongan Machinery has a complete rental and sales service system, which can provide customers with the best quality service conveniently and quickly.

服务业务主要包括/Our service mainly including

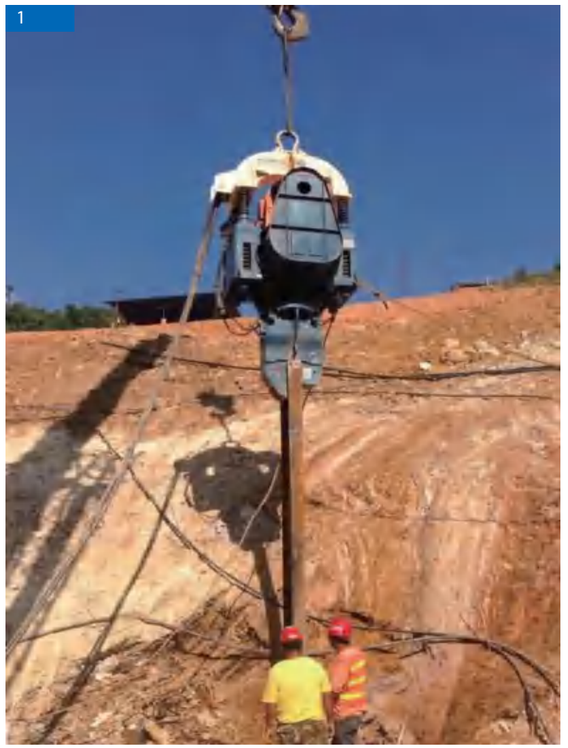
1. 根据施工条件要求，提供设备型号的选择。
2. 协助客户拟定首次施工方案。
3. 提供新、特、难工程施工技术咨询或推荐合适的施工方案。
4. 根据客户的特殊要求，设计制造产品。
5. 设备安装调试。为客户培训设备日常操作保养人员。
6. 定期到客户使用地点巡检设备使用状况。
7. 保修期内送货上门。
8. 72小时内到达任何指定现场。
9. 重点工程的跟踪服务。
10. 提供技术交流的机会。
11. 开展振动桩锤系列产品大项维修。
12. 可短期内提供多台设备完成客户应急要求。

1. According to the requirements of construction conditions, provide the choice of equipment model.
2. Assist the client to formulate the first construction plan.
3. Provide technical consultation or recommend suitable construction plans for new, special and difficult projects.
4. Design and manufacture products according to the special requirements of customers.
5. Equipment installation and debugging. Train the daily operation and maintenance personnel of equipment for customers.
6. Regularly go to the customer's location to inspect the use of the equipment.
7. Door-to-door delivery during the warranty period.
8. Arrive at any designated site within 72 hours.
9. Tracking service for key projects.
10. Provide opportunities for technical exchanges.
11. Carry out major maintenance of vibrating pile hammer series products.
12. Multiple sets of equipment can be provided in a short period of time to meet customer emergency requirements.

我们的承诺/We Commit

- 对客户来电函信息4小时内处理完毕答复；
  Deal with the customer's inquiries within 4 hours.
- 服务工程师24小时待命制；
  Service engineer 24 hours standby.
- 故障未处理完毕，服务工程师不能离开现场，离开现场需要客户许可；
  The service engineer can't leave site until they solve the problem.

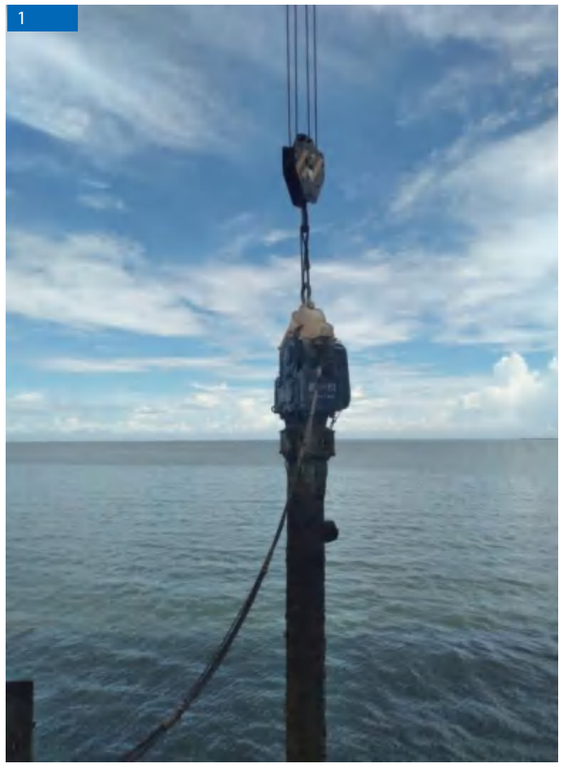
高效-为企业开启**成功之门**

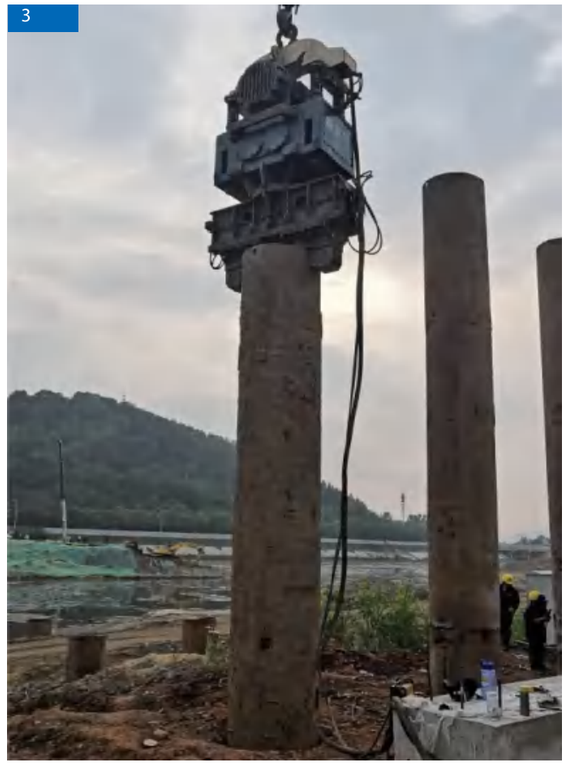


DZJ-90
1老挝水电站项目
Laos Hydropower Station Project
施工情况：工字钢
Construction situation: I-beam pile

DZ-60
2 以色列阿什杜德港口码头工区
Ashdod Port And Wharf Work Area,Israel
使用单位：中交二航局 User: CCCC-Second Harbor Eng.Co.,Ltd
使用桩型：H型钢（长19.3m、22m。宽0.527m、0.8m）
U型钢（长17.5m，宽1.4m）
Pile type: H-shaped steel(19.3m,22m long.Width 0.527mm,0.8m)
U-shaped steel(17.5 long and 1.4m wide)
入土深度：H型钢 11m和13m，U型钢 8.5m
Depth of penetration:11m and 13m for H-beam,U-shaped steel 8.5m
地质情况：粉土、黏土和硬质层
Geological conditions:silt,clay and hard layer

DZJ-90
3 孟加拉博利萨尔、派拉大桥
Barisal Payra Bridge,Bangladesh
施工情况：直径1.5m的护筒
Construction situation: 1.5m diameter casing
入土深度：12m
Depth of penetration:12m
地质情况：沙土，黑粘土
Geological conditions:Sandy, black clay





DZJ-120

1 海南铺前大桥 Hainan Puqian Bridge

施工情况：拔17m左右桩,还有80mm的及1m的，桩长为26m

Construction situation: Extract around 17m pile also pull out diameter 0.8m and 1m(26m length) piles

DZJ-180

2 娄底双峰县湄水河 Loudi Shuangfeng County Meishui River

施工情况：护筒直径 2.2m，长6m

Construction situation: 2.2m diameter and 6m long casing

入土深度：6m

Depth of penetration: 6m

地质情况：回填土岩石层

Geological conditions:Backfill rock layer

DZJ-135

3 信阳浉河拱桥1标段 Xinyang Shihe Arch Bridge 1st Bid Section

使用单位：中铁大桥局第五公路局

User:China Major Railway Bridge Engineering 5th Bureau

施工情况：直径1m桩

Construction situation: 1m diameter pile

入土深度：10m

Depth of penetration: 10m

地质情况：沙土 粘土层

Geological conditions: sand,clay layer

DZJ-150

4 湛江调顺跨海大桥 Zhanjiang Tiaoshun Cross Sea Bridge

使用单位：中铁大桥局集团第四工程有限公司

User:China Major Railway Bridge Engineering 4th Construction Co.,Ltd

施工情况：直径1m，桩长30m

Construction situation: 1m diameter and 30m long pile

入土深度：15m

Depth of penetration: 15m

DZJ-300

5 甘肃靖远金滩黄河大桥
Gansu Jingyuan Golden Beach Yellow River Bridge

使用单位：中铁大桥局七公司

User:China Major Railway Bridge Engineering 7th Co.,Ltd

施工情况：2.1m护筒，长是16m

Construction situation: 2.1m diameter and 16m long casing

入土深度：8m

Depth of penetration: 8m

DZJ-400

6 福建平潭跨海公铁大桥
Fujian Pingtan Cross Sea Highway and Railway Bridge

使用单位：中铁十三局

User:China Railway Bridge Bureau 13

施工情况：直径3.3m护筒

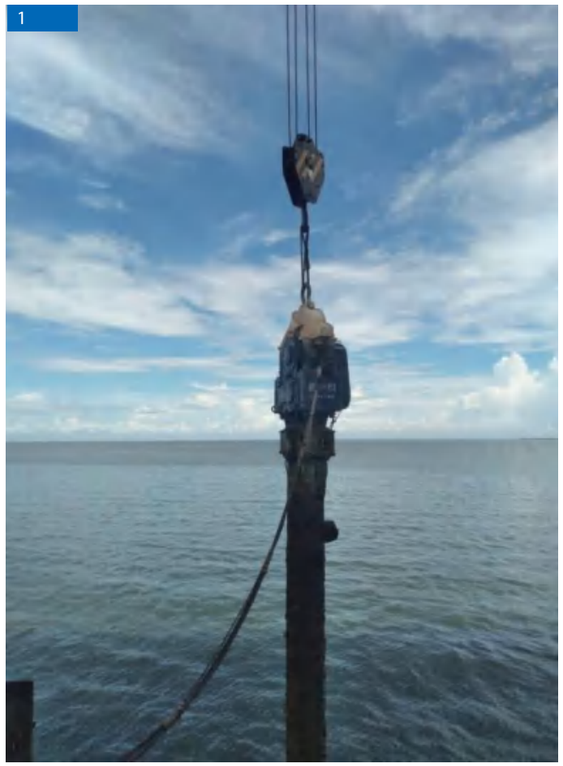
Construction situation: 3.3m diameter casing

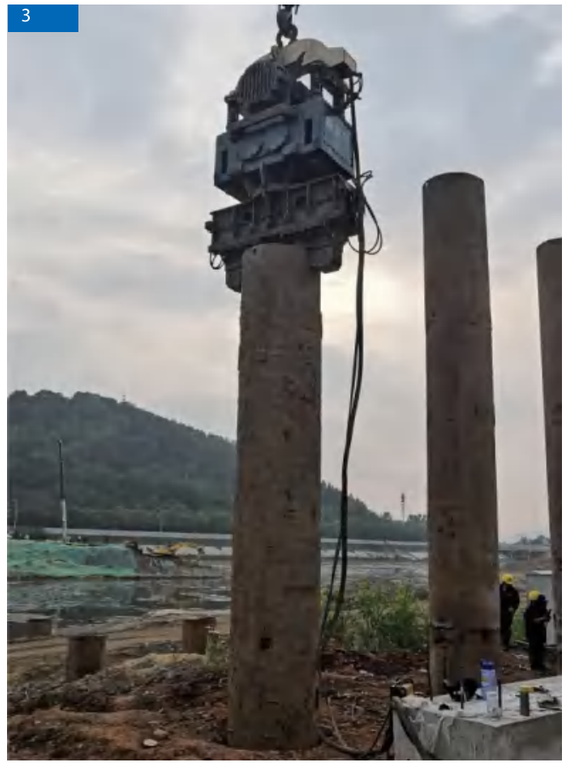
入土深度：3.8m

Depth of penetration: 3.8m

地质情况：岩层

Geological conditions: Rock layer





DZJ-120

1 海南铺前大桥 Hainan Puqian Bridge

施工情况：拔17m左右桩,还有80mm的及1m的，桩长为26m

Construction situation: Extract around 17m pile also pull out diameter 0.8m and 1m(26m length) piles

DZJ-180

2 娄底双峰县湄水河 Loudi Shuangfeng County Meishui River

施工情况：护筒直径 2.2m，长6m

Construction situation: 2.2m diameter and 6m long casing

入土深度：6m

Depth of penetration: 6m

地质情况：回填土岩石层

Geological conditions:Backfill rock layer

DZJ-135

3 信阳浉河拱桥1标段 Xinyang Shihe Arch Bridge 1st Bid Section

使用单位：中铁大桥局第五公路局

User:China Major Railway Bridge Engineering 5th Bureau

施工情况：直径1m桩

Construction situation: 1m diameter pile

入土深度：10m

Depth of penetration: 10m

地质情况：沙土 粘土层

Geological conditions: sand,clay layer

DZJ-150

4 湛江调顺跨海大桥 Zhanjiang Tiaoshun Cross Sea Bridge

使用单位：中铁大桥局集团第四工程有限公司

User:China Major Railway Bridge Engineering 4th Construction Co.,Ltd

施工情况：直径1m，桩长30m

Construction situation: 1m diameter and 30m long pile

入土深度：15m

Depth of penetration: 15m

DZJ-300

5 甘肃靖远金滩黄河大桥
Gansu Jingyuan Golden Beach Yellow River Bridge

使用单位：中铁大桥局七公司

User:China Major Railway Bridge Engineering 7th Co.,Ltd

施工情况：2.1m护筒，长是16m

Construction situation: 2.1m diameter and 16m long casing

入土深度：8m

Depth of penetration: 8m

DZJ-400

6 福建平潭跨海公铁大桥
Fujian Pingtan Cross Sea Highway and Railway Bridge

使用单位：中铁十三局

User:China Railway Bridge Bureau 13

施工情况：直径3.3m护筒

Construction situation: 3.3m diameter casing

入土深度：3.8m

Depth of penetration: 3.8m

地质情况：岩层

Geological conditions: Rock layer

DZJ-480

1重庆万州长江公路三桥
Chongqing Wanzhou Yangtze River Highway 3rd Bridge

使用单位：四川公路桥梁建设集团有限公司
User: SRBG

施工情况：钢护筒直径3.3m，护筒长65-70m，100t
Construction situation: 3.3m diameter and 65-70m long steel casing,casing weight more than 100ton

地质情况：岩层
Geological conditions: Rock layer

DZJ-90

2合安九高铁标段 He-an-jiu High-speed Railway Bid section

使用单位：中铁四局五公司
User: China Major Railway 4th Bureau 5th Company

施工情况：直径630mm桩
Construction situation: 630mm diameter pile

地质情况：淤泥，红土，石灰岩
Geological conditions: Silt,Red clay,Limestone

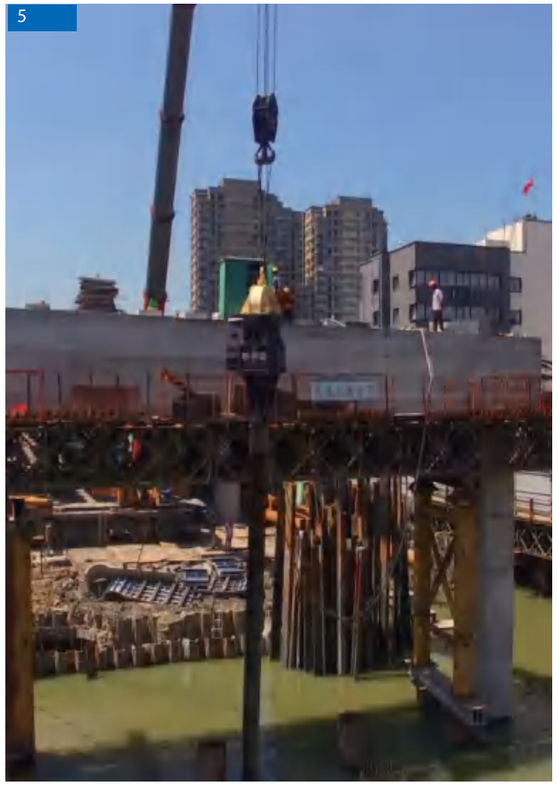
DZJ-240

3南三岛大桥 South Thied Island Bridge

使用单位：中铁大桥局四公司
User: China Major Railway Bridge Engineering 7th Co.,Ltd

施工情况：直径2m桩,桩长36m
Construction situation: 2m diameter and 36m long pile

入土深度：30m
Depth of penetration: 30m



DZJ-90、DZJ-120

4温州市七都大桥北汊桥工程
North Branch bridge project of Qidu bridge in Wenzhou

使用单位：中国建筑七局
User: China Construction Seventh Engineerng Division.corp.Ltd

施工情况：桩长22.5m，壁厚10mm，直径800mm
Construction situation: 22.5m long and 10mm wall thickness pile
Diameter: 800mm

DZJ-90

5温瑞大道南段快速路一期工程第3标段
Lot 3 of phase I project of Expressway in south section of Wenrui Avenue

使用单位：中交一公局集团有限公司
User: CCCC first highway Group Co., Ltd

施工情况：拔桩
Construction situation: Pile pulling
桩长度：20米
Pile length: 20m

DZJ-150

6江苏邳州市土山镇土山大桥
Tushan Bridge,Tushan Town,Peizhou City,Jiangsu Province

施工情况：桩径0.82m，长15m
Construction situation: 0.82m diameter and 1m long pile

入土深度：14m
Depth of penetration: 14m

地质情况：沙土层
Geological conditions: Sand clay

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DZJ-135

1海口文明东越江工程
Haikou Civilization East Yuejiang Construction
使用单位：上海韵勤建筑工程公司
User: Shanghai Yunqin Construction Engineering Co.,Ltd
施工情况：钢板桩
Construction situation: Steel sheet pile
入土深度：20m
Depth of penetration: 20m

DZJ-400

2港珠澳大桥
Hong Kong-Zhuhai-Macao Bridge
使用单位：中铁大桥局
User: China Railway Major Bridge Engineering
施工情况：围堰拼桩拆除，及海上风电桩打入
Construction situation: Extract cofferdam piles and piling offshore wind power piles
地质情况：淤泥，红土，石灰岩
Geological conditions: Silty clay with silt

DZJ-150

3武汉墨水湖北路--四新南路工程
Wuhan Moshui Hubei Road-South Four New road Construction
施工情况：桩径630mm，桩长12m
Construction situation: 630mm diameter and 12m long pile
入土深度：6m-10m
Depth of penetration: 6m-10m
地质情况：风化岩泥
Geological conditions: Weathered rock mud

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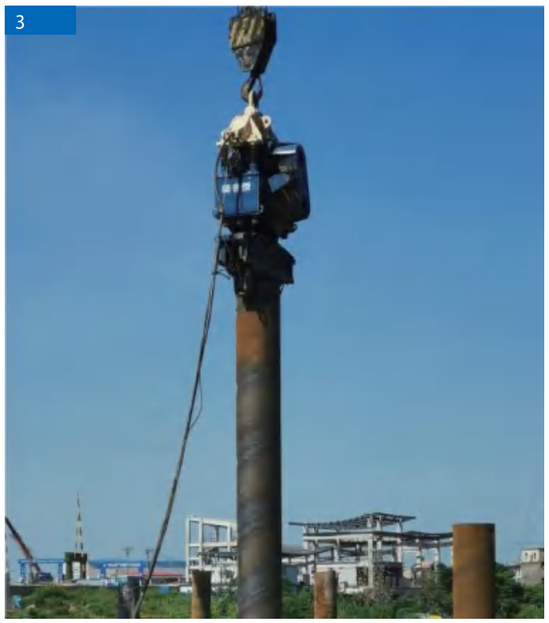

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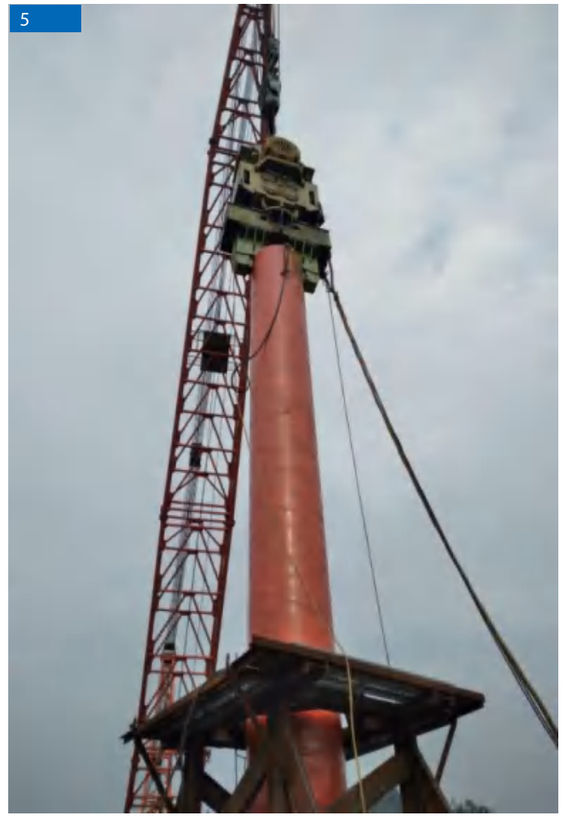

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DZJ -90

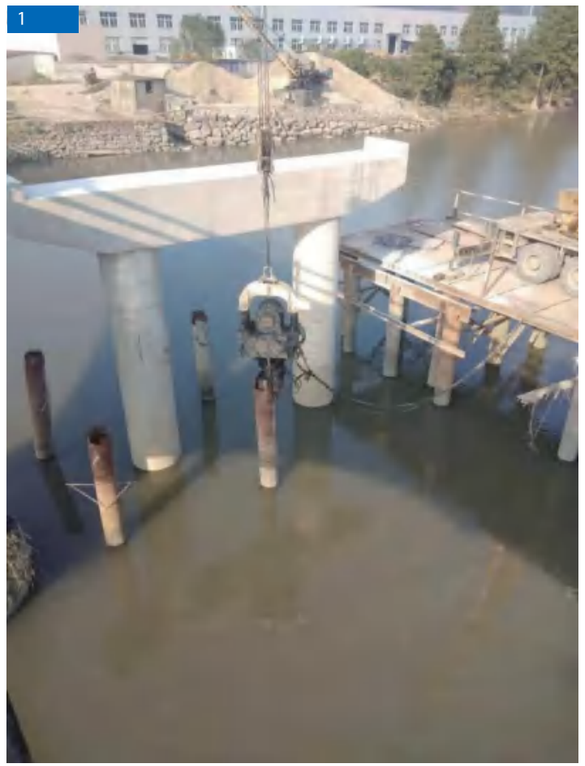
4银川吴银客运铁路
Yinchuan Wuyin Passenger railway
施工情况：管桩18m，直径800
Construction situation: 800mm diameter and 18m long pipe pile
地质情况：沙土鹅软石
Geological conditions: Sand cobblestone

DZJ-240

5千岛湖高速公路大桥
Qiandaohu Expressway Bridge
施工情况：桩长48m，直径1m，厚30mm。栈桥桩，一共112根桩。
Construction situation: Total 112 Pcs 1m diameter,wall thickness 30mm and 12m long trestle piles.
入土深度：不含湖水13m左右
Depth of penetration: Without laker water around 13m
地质情况：湖下岩层坚硬
Geological conditions: Under laker hard rock layer

DZJ-300

6广东省增城市石滩镇塘头村
Tangtou Village,Shitan Town,Zengcheng City,Guangdong Province
使用单位：中铁广州工程局集团第二工程有限公司
User: China Railway Guangzhou Engineering Group Real Estate Co,,Ltd
施工情况：桩直径2.81m，长度24m
Construction situation：2.81m diameter and 12m long pile
入土深度：8m
Depth of penetration: 8m
地质情况：淤泥，粗沙，碳化石
Geological conditions: silt,coarse sand,carbon fossil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DZ-45

1宁波后竺旧桥改造项目 Ningbo Fenghua Houzhu Old Bridge Renovation Project

施工单位：鼎沛科技有限公司

User:Dingpei Technology Co.,Ltd

施工情况：钢管直径529mm，入土18m

Construction situation: Driving 529mm length pile into soil to a depth of 18 meters.

地质情况：淤泥、粉质黏土

Geological conditions: Silt,silty clay

DZJ-480

2武汉市沌口长江大桥

Tunkou Yangtze River Bridge,Wuhan City

使用单位：中交二航局5公司

User: CCCC-Second Harbor Eng 5th Co.,Ltd

施工情况：16根直径3.3m的大护筒

Construction situation: 16 PCS 3.3m diameter steel casing

入土深度：12m-14m

Depth of penetration: 12-14m

DZJ-600

3黄冈公铁长江大桥

Huanggang Highway and Railway Yangtze River Bridge

使用单位：中铁大桥局

User: China Railway Major Bridge Engineering

施工情况：2.5m直径钢护筒

Construction situation: 2.5m diameter steel casing

入土深度：16m

Depth of penetration: 16m

地质情况：强风化和花岗岩层

Geological conditions: Strong weathered and granite layer


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DZJ-180

4泰兴化工码头

Taixing Chemical Wharf

使用单位：中交二航局第三航务工程有限公司

User: CCCC-Second Harbor 3rd Eng.Co.,Ltd

施工情况：直径2.5m（48根）

Construction situation: 48PCS 2.5m diameter pile

入土深度：18m

Depth of penetration: 18m

地质情况：淤泥，粉质黏土及硬塑粉质粘土

Geological conditions: Silt,silty and hard plastic silty clay

YC-30、DZJ-135

5上海临港新城东港区公用码头

Public Terminal in East Port District,Shanghai Lingang New City

使用单位：中交港务建设集团公司

User: CCCC Port Construction Group Corporation

施工情况：桩长46m，桩径1m，壁厚16mm,先用DZJ-135立桩，打桩，后用YC-30锤补打到标高

Construction situation: The pile length is 46m,the pile diameter is 1m,and the wall thickness is 16mm.First use DZJ-135 to pile up,piling,and then use YC-30 hammer to fill the level.

DZJ-120

6嘉绍跨海大桥

Jiashao Cross Sea Bridge

使用单位：中交二公局，中交二航局，中铁大桥局，中交三航局中铁四局

User: CCCC-Second Harbor Eng.Co.,Ltd,
CCCC-Second Highway Eng.Co.,Ltd,
China Railway Major Bridge Engineering,
CCCC-Third Highway Eng.Co.,Ltd
China Railway Bridge Bureau 4

施工情况：0.82m-1.2m直径钢管桩

Construction situation: 0.82m-1.2m diameter steel pipe pile

入土深度：22m Depth of penetration: 22m

地质情况：粉质沙土

Geological conditions: Silty,sand

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DZJ-400

1金海大桥 Jinhai Bridge

使用单位：中铁大桥局五公司

User: China Major Railway Bridge Engineering 5th Co.,Ltd

施工情况：3.4m护筒

Construction situation: 3.4m diameter casing

入土深度：39m左右

Depth of penetration: Around 39m

地质情况：淤泥

Geological conditions: silty

DZJ-120

2九江市都昌县新妙湖大桥

Xinmiaohu Bridge,Duchang County,Jiujiang City

使用单位：中铁十九局

User: China Railway Bridge Bureau 19

施工情况：桩长12m

Construction situation: 12m long pile

入土深度：10m

Depth of penetration: 10m

地质情况：强风化层

Geological conditions: Strong weathered layer

DZJ-200

3广州虎门二桥

Guangzhou Humen 2nd Bridge

使用单位：中交二航局

User: CCCC-Second Harbor Eng Co.,Ltd

施工情况：钢护筒桩，桩长24m，直径2.8m

Construction situation: 2.8m diameter and 24m long steel casing pile

入土深度：12m

Depth of penetration: 12m

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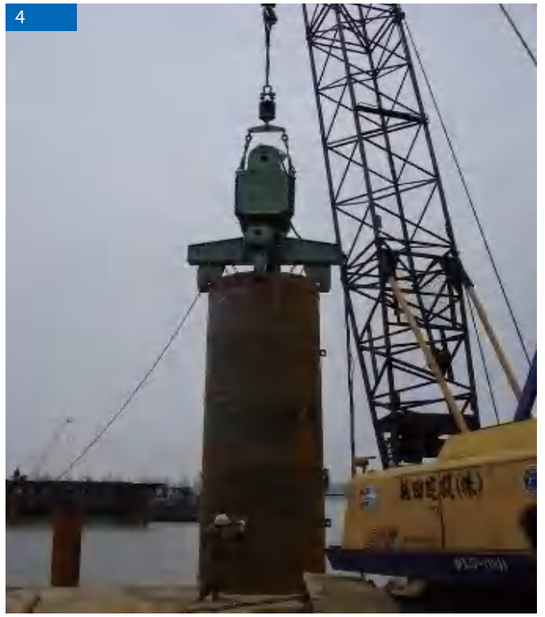

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DZJ-240

4蚌埠淮河特大桥 Bengbu Huaihete Bridge

使用单位：中铁十二局

User: China Railway Bridge Bureau 12

施工情况：2.5m钢护筒

Construction situation：2.5m diameter steel casing

入土深度：18m-22m

Depth of penetration: 18m-22m

地质情况：淤泥，强风化岩层和弱风化岩层

Geological conditions: Silt,strong weathered rock and weak weathered rock

DZJ-300

5台州泽国

Taizhou Zeguo

施工情况：直径3.55m，桩长17m

Construction situation: 3.55m diameter and 17m long pile

DZJ-135

6海南铺前大桥

Hainan Puqian Bridge

使用单位：中交二航局

User: CCCC-Second Harbor Eng Co.,Ltd

施工情况：12m/3吨，钢管桩

Construction situation: 12m/3ton steel pipe pile

地质情况：黏土，沙土以及石灰岩

Geological conditions: Clay, sand and limestone

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DZJ-90

1湛玉高速一工区东海岛大桥
Donghaidao Bridge,Yuzhan Expressway 1st Work Area

使用单位：中交一航局

User: CCCC-First Harbor Eng Co.,Ltd

施工情况：拔630管，长24m

Construction situation：Extract 630 pipe pile,the length is 24m

入土深度：20m

Depth of penetration: 20m

DZJ-120

2湖南怀化张吉怀铁路
Zhangjihuai Railway,Huaihua,Hunan

使用单位：中铁大桥局第三公司

User: China Major Railway Bridge Engineering 3th Bureau

施工情况：桩径820mm

Construction situation：820mm diameter pipe pile

入土深度：20m

Depth of penetration: 20m

地质情况：土砂

Geological conditions: Soil sand

DZJ-480

3鳊鱼洲长江大桥
Bianyuzhou Yangtze River Bridge

施工情况：钢管直径2.8m，长40m

Construction situation：2.8m diameter and 40m long steel pipe pile

入土深度：25m

Depth of penetration: 25m

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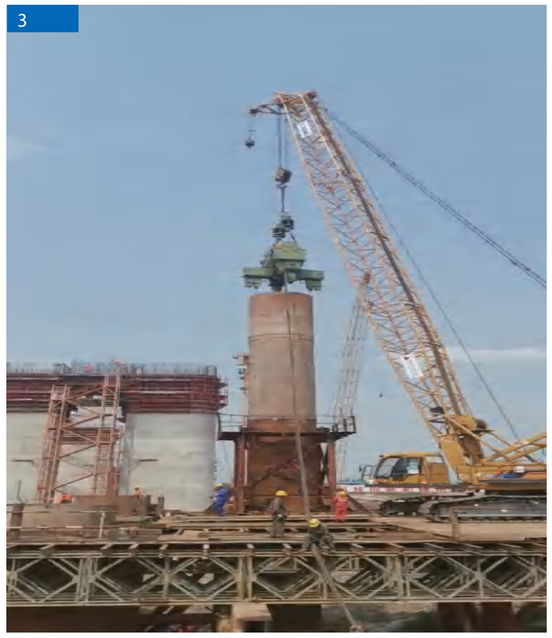

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DZJ-135

4洪湾旧村改造工程
Hongwan Old Village Reconstruction Project

施工情况：桩径8.3m，桩长36m，管桩壁厚12mm

Construction situation：8.3m diameter,36m long and wall thickness 12mm steel pipe pile

入土深度：24m

Depth of penetration: 24m

地质情况： 淤泥层，细沙粘土层，全风化花冈岩层

Geological conditions: Silt layer,sand clay layer, fully weathered granite layer

DZJ-400

5三门峡黄河大桥
Sanmenxia Yellow River Bridge

施工情况：直径2.8米

Construction situation:Diameter: 2.8m

入土深度：10m

Depth of penetration: 10m

地质情况： 黄土层

Geological conditions: Loess layer

DZJ-300

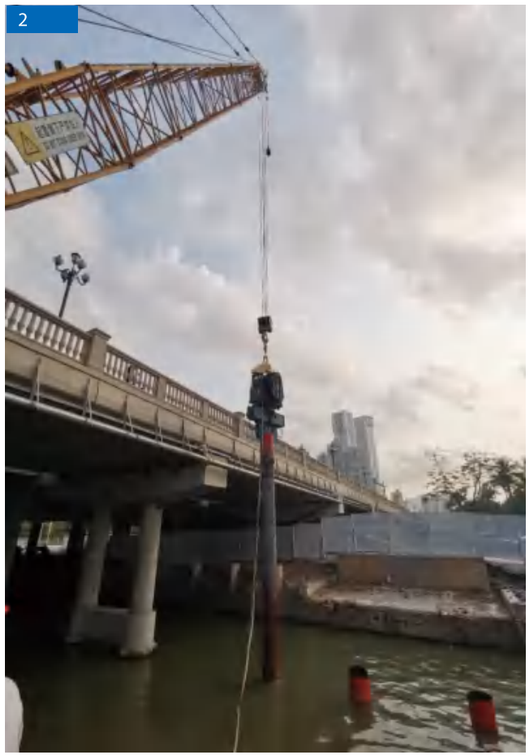
6南京仙新大道过江通道项目
Xianxin Road River Channel Project

施工情况：直径2.7m，壁厚30mm钢护筒,桩长24m

Construction situation: 2.7m diameter and wall thickness 30mm steel casing.24m long pile

入土深度：18m-20m

Depth of penetration: 18m-20m



DZJ-150

1 湖南省双峰县项目
Shuangfeng County Project,Hunan Province

施工情况：2.2m直径，长15m护筒

Construction situation: 2.2m diameter and 15m long casing

地质情况：沙土

Geological conditions: Sand

DZJ-90

2 前山大桥拓宽工程
Qianshan Bridge Widening Project

使用单位：中国建筑第一工程公司

User: China Construction First Engineering Company

施工情况：桩径630mm，壁厚10mm，桩长24m管桩

Construction situation: 630mm diameter,10mm wall thickness and 24m long pipe pile

入土深度：21m

Depth of penetration: 21m

地质情况：淤泥，粘土层

Geological conditions: Silt,clay layer

DZJ-120

3 安慈高速3标段 Anci Highway 3rd Bid Section

使用单位：湖南驰勇建筑工程有限公司

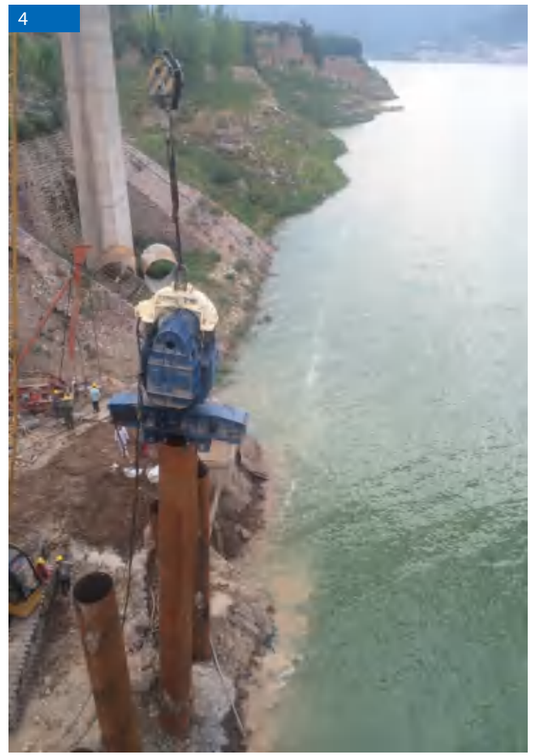
User: Hunan Chiyong Construction Engineering Co.,Ltd

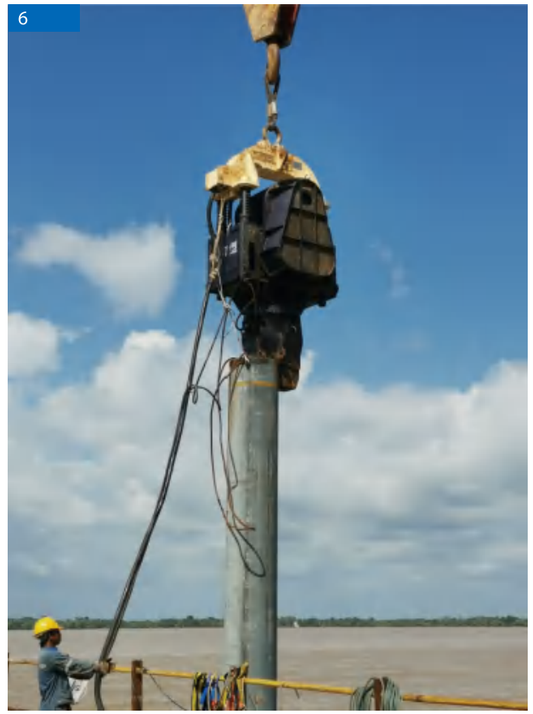
施工情况：直径2.4m桩

Construction situation: 2.4m diameter pile

入土深度：6m

Depth of penetration: 6m





DZJ-180

4 垣渑高速公路黄河特大桥
Yuanmian Expressway Huanghe Bridge

使用单位：江苏交工

User: Jiangsu Handover

施工情况：打栈桥承台、直径630mm钢管桩

Construction situation: Piling trestle platform and 630mm diameter pipe pile

DZJ-400

5 舟山小鼠浪屿碎石桩
Zhoushan xiaoshulangyu gravel pile

施工情况：桩径800m、1000mm，壁厚25mm，桩长32m管桩

Construction situation: Pipe pile with pile diameter of 800m and 1000mm, wall thickness of 25mm and pile length of 32m

入土深度：25m Depth of penetration: 25m

地质情况：淤泥，沙层

Geological conditions: Silt,sand layer

DZJ-120

6 马来西亚萨里巴斯大桥
Malaysia Saribati Bridge

使用单位：中铁九桥工程有限公司

User: CHINA RAILWAY JIUJIANG BRIDGE ENGINEERING CO.,LTD.

施工情况：桩径630mm，桩长30m、壁厚10mm

Construction situation:Pile diameter 630mm, pile length 30m, wall thickness 10mm

地质情况：淤泥层、沙土层

Geological conditions: Mud layer, sand layer