

专业服务 创造价值

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地下基础施工 整体解决方案专家

EXPERTISE IN DELIVERING TURNKEY SOLUTIONS
TO DEEP FOUNDATION ISSUES



ZG220

Crane Mounted Drilling Rig

高台旋挖钻机

上海工程机械厂有限公司成立于1921年。公司主要从事TRD工法机、静钻根植工法钻机、全回转套管钻机、多轴式连续墙钻机、全液压履带式、步履式打桩架、筒式柴油锤、电动振动锤、液压打桩锤等地下基础施工机械产品的设计、制造和销售。主要为高速公路、高层建筑、桥梁、地铁、机场、码头、电站等大型、特大型工程施工提供机械设备和服

ZG220高台旋挖钻机是上海工程机械厂有限公司多年来结合地下基础施工的设计特点，最新研发的新一代旋挖钻机，具有完全的自主知识产权，技术水平达到并领先于国内同类产品。该设备具有设计独特、性能优越、工作稳定、可靠性高，钻孔直径可达600mm~2500mm、标配钻孔深度可达42m（最大钻孔深度可达80m）、并可钻打斜桩等特点；可广泛运用于高层建筑、海上施工、地铁车站的深基坑的围护，江河堤坝的防渗加固和软土地基的改良加固等工程施工。

ZG220 高台旋挖钻机

Crane Mounted Drilling Rig

Shanghai Engineering Machinery Co., Ltd. (SEMW)—founded in 1921. SEMW is specialized in design, manufacturing and distribution of pile driving and deep foundation equipment. SEMW currently produces Trench Cutting & Re-mixing Deep Wall Equipments, SDP110 Pre-bored Pre-cast Piling Equipment, CRD-200H full casing rotary drilling rig, Multi-shaft Agitating Augers, Hydraulically driven Pile Driving Rigs, Hydraulic Walking Piling Rigs, D series Diesel Pile Hammers, Vibratory Hammers, Hydraulic Hammers. Our products are widely used on high profile and long term engineering projects, such as, expressways, skyscrapers, bridges, subways, airports, deep-water docks, and power stations.

With years of experience and engineering researches, SEMW manufactured the new range of Crane Mounted Drilling Rig—ZG220. ZG220 has reached the advanced level and owns completely Independent Property Rights. It can drill holes of diameter from 600mm~2500mm and of various depths up to 42m (max. 80m). The Rig features unique designs, high efficiency and reliability. It is widely used in the projects of deep foundation, offshore, subway station and skyscrapers.



性能特点 FEATURES

- 主机采用6BTAA5.9-C180柴油机及YD19液力变速器，提供强大动力和输出不同扭矩。
- 三辊道，采用安装强制润滑系统的主轴箱；在不同运行速度条件下将216kN·m钻杆，脱离螺旋钻的最大速度可达160rpm，使工作更稳定可靠、提高施工效率。
- 由760毫米的行程液压油缸构成的16吨的加压系统。
- 完全可拆卸的基本构架和下层支架，使运输更加便捷；如钻孔时需要增加轮盘和地平面之间的间隙，拆卸式设计便于设置垫片或隔离物。
- 配备四层级17M（标配12M）长的磨阻钻杆，提高钻打深度。
- 与起重机吊臂连接好，采用两个稳定油缸用于动力头液压调平，确保钻打直斜桩施工要求。
- 远程操作的控制盒，可以根据施工情况就近或远离进行操作。
- 进出口采用空气过滤器，保证传动系统润滑油品质，确保主轴箱可靠的动力传输。
- 本台设备，需配置一台50吨级以上的起重机联合使用，起重机可一机多用，可有效降低客户投资成本。

- 6BTAA5.9-C180 Diesel Engine and YD19 Transmission Gear Box, supply strong driving force and different torques according to your requirement.
- 3-Roller table, with forced lubrication system and damping mounting through Teflon rings, to transmit as much as 216 kN.m torque to Kelly bar at various operating speeds, up to 160 rpm for spin off of the auger tool.
- 16 ton Crowd system through 760 mm stroke hydraulic jacks.
- Fully detachable basic frame and subframe for ease of transport and to accommodate spaces when drilling requires to increase clearance between the rotary table and ground level.
- Standard rig fits a 4-element Kelly bar, 17 meters (standard configuration: 12m) long for each element.
- 2 Positioning braced to the crane gantry for hydraulic leveling of the rig.
- Remote control box for remote operation according to various construction situations.
- Intake air filters to ensure reliable torque transmission.
- The standard rig requires a minimum 50 ton capacity crane. Crane can be converted into multiple-function equipment, which reduces investment cost for customers.

A 伸缩钻杆 TELESCOPIC KELLY BAR

伸缩钻杆可分成几种不同的类型，由三个或四个节杆组成，这些节杆将旋转转矩通过一系列骨架向外传送，在旋转转矩的作用下，快进作用力由此产生。其内部的节杆通过转盘与主要绳索连接。

There are several types of telescopic Kelly bar. Kelly is composed of three or four elements, for drilling different depth. The torque transmission is due to special ribs on Kelly and slides into grooves located inside the Kelly terminals.



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B 主轴箱 ROTARY HEAD

主轴箱是将发动机的旋转通过变速箱的机械减速将扭矩最终传送到辊道、伸缩钻杆直至动力头。

主轴箱中的旋转齿轮浸泡在润滑油里，另外还采用了强制润滑系统，能使油温可控，并在进出口设置了机油过滤器。

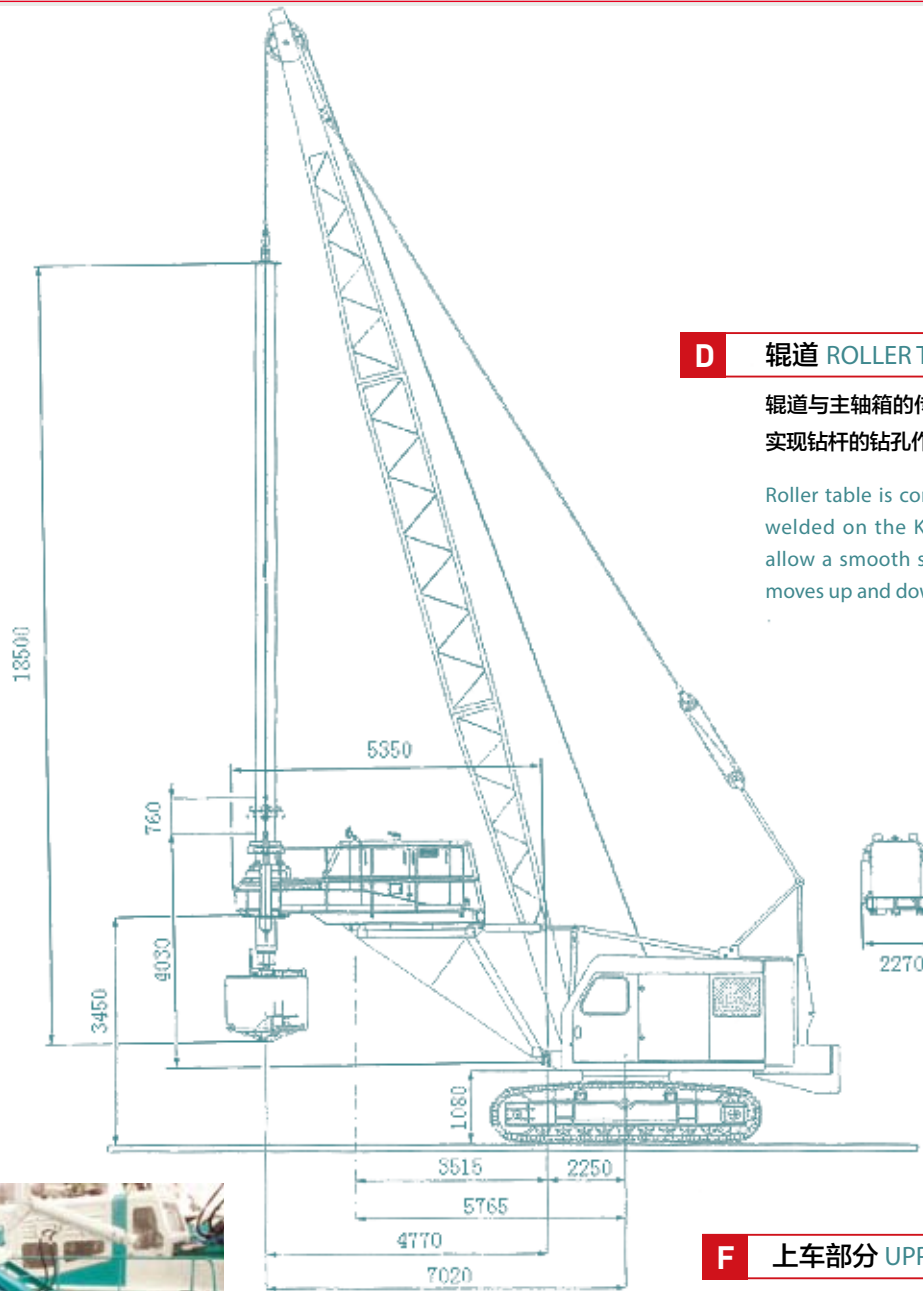
Rotary head makes rotation movement and transmits the torque to the drill through telescopic Kelly bar. Oil-bath and forced lubricating system which provides low temperature working condition and best continuous lubrication. Oil filter is installed as well.

**C** 旋转盘 SWIVEL

旋转盘可以将钻杆与主要绳索连接。其目的是为了实现在钻杆的自由旋转，避免了绳索的缠绕。

The swivel element is placed between the rope and Kelly allows to keep the rope still while the Kelly is rotating, to avoid rope intertwining.





D 辊道 ROLLER TABLE

辊道与主轴箱的传动轴套连接。三个空转辊柱可以实现钻杆的钻孔作业和滑行，并可将其摩擦最小化。

Roller table is connected to drive shaft. Three ribs welded on the Kelly bar can reduce friction and allow a smooth sliding during the Kelly moves up and down.



E 铰接支架 LOWER FRAME

铰接支架是整个钻机的支点，并支撑起上车部分。铰接支架配备了一个工具箱和一个手动泵，用以柴油的补充和换料。

Lower frame is the support for the whole upper frame which is also linked with the crane as attachment.

Tool box and pump are provided for fuel supply.

F 上车部分 UPPER FRAME

上车部分包括所有机器部件的支承机架，柴油机、传输装置、主轴箱和加压系统等。

机架中包含了柴油箱，而液压油箱则位于传输装置上方。

Upper Frame consists of the frame assembly, diesel engine, transmission system, rotary head and crowd system, etc.

Fuel tank is installed in the frame and hydraulic oil tank is on the top of transmission system.



主要技术参数 SPECIFICATIONS

项 目 Item	单 位 Unit	内 容 Specification
最大扭矩 Max. Torque	kN-m	216
标配钻孔孔深 Standard Drilling Depth	m	42/62
最大钻孔孔深 Max. Drilling Dept	m	80
钻孔直径 Drilling Diameter	mm	600-2500
变速箱型号 Transmission Gear Box		YD19
变矩器型号 Torque Convertor		4166-030-116H
柴油机型号 Diesel Engine		6BTA5.9-C180
柴油机最大功率 Max. Power	HP	180
柴油机冷却方式 Engine Cooling System		水冷 Water
电气系统电压 Electric System	V	24
回转器形式 Rotary Table		机械 Mechanical
钻杆转速 Rotating Speed	rpm	0~145
加压方式 Crowd System		液压 Hydraulic
加压行程 Crowd Stroke	mm	760
标准伸缩钻杆规格I Standard Telescopic Kelly Bar	外径 × 层数 × 长度 Diameter × Elements × Length	Φ 356mm × 4 × 12m
标准伸缩钻杆规格II (选择件) Standard Telescopic Kelly Bar (Optional)	外径 × 层数 × 长度 Diameter × Elements × Length	Φ 356mm × 4 × 17m

* 柴油机为中国产康明斯发动机。

* The diesel engine is Cummins engine produced in china.

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