





全回转式全套管钻机系列 **Casing Rotator Series**

上海工程机械厂有限公司 SHANGHAI ENGINEERING MACHINERY CO., LTD.

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2020年8月,上工机械正式收购徐州盾安资产, 开启全回转式全套管钻机产品和技术发展新篇章。 SEMW formally acquired the assets of Xuzhou Dun An in August 2020, A new chapter in the product and technology development of Casing Rotator.







BHAR

通州基础











上海工程机械厂有限公司成立于1921年 前身为上海工程机械厂。 Shanghai Engineering Machinery Co., Ltd. (SEMW) -founded in 1921-

公司主要从事TRD系列工法机、静钻根植系列工法钻机、全回转式套管钻机、DCM系列海上、陆上处理系统、双轮搅拌钻机 、多功能套管螺旋钻机、SMJ履带式钻机、多轴式连续墙系列钻机、全液压履带式、步履式系列打桩架、搓管机、筒式系 列柴油锤、电驱振动锤、液压系列打桩锤、高空作业平台等地下基础施工机械产品的设计、制造和销售。可为高速公路、 高层建筑、桥梁、地铁、机场、码头、电站等特大型工程的基础施工提供机械设备和整体解决方案。 公司产品除提供国内市场外,还出口到北美、欧洲、南美、非洲及东南亚各国,并获得中华人民共和国进出口企业资格证 书。

SEMW is specilist manufacturing of pile driving and deep foundation equipment. SEMW currently produces Trench Cutting & Re-mixing Deep Wall Method Equipment, SDP110 Pre-bored Pre-cast Piling Equipment, CRD-200H full casing rotary drilling rig, DCM Series offshore and land Processing System, Double Wheel Agitator Rig, DRA Series Dual Power Rotary Auger, SMJ Pile Driving Rig, Multi-shaft Agitating Augers, Hydraulic Pile Driving Rigs & Walking Piling Rig, PIT300 rammed shaft casing oscillators, D series Diesel Pile Hammer, Vibratory Hammer, HM Series Hydraulic Hammer, Boom Lifts. SEMW provides mechanical equipment and Turnkey solutions for the foundation construction of super large projects such as expressways, high-risebuildings, bridges, subways, airports, docks and power stations. Our equipments are well received both domestically and overseas, in addition to providing domestic market, also exported to North America, Europe, South America, Africa and southeast Asia countries, and has obtained thePeople's Republic of China import and export enterprise qualification certificate.





楔形夹紧装置 Wedge shape clamr



与传统夹紧机构相比,无论在 什么位置都能夹紧套管,并使套管 保持较高的垂直精度,而且套管的 拉拔力越大,夹紧力也就越大。 The Wedge shape clamping machanism can clamp every position of the casing surface and keep the vertical accuracy of the casing. It is designed with high performance delivery effiency.



马达减速机 Montor reduction gear

多套马达减速机可以提供足够 的扭矩, 传递给套管强大的回转 力,可适应复杂的地层及切削障 碍物。

Multiple sets of motor reducer can supply the sufficient torque, transfer a strong rotary force to the casing, which can adapt to the complicated stratum and cut obstructions.





液压垂直装置,保证施工中钻 孔的垂直度。 Hydraulic leveling Jack device ensures the verticality of drill holes.





方便的口径变更使得设备适用 于多种口径的变更要求。 The reducer makes the equipment adapt to various requirements of casing diameter.

CRD Casing Rotator Series 全回转式全套管钻机

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能更好的保证套管的垂直度, 同时在大深度挖掘时弥补配套起 重机起吊能力不足的问题。 It can better ensure the verticality of casing, and additionally compensate

for the problem of low crane capactiy

of the equipped crane during deep

excavation.



履带式行走装置,液压横向伸 缩功能,可使设备在场地上方便 自行移动及桩心定位。

The crawler traveling device is with the function of hydraulic transverse expansion, which is convenient for the equipment to move automatically and conduct the pile core localization.



Base machine



发动机 Engine



发动机巨大的功率能够给设备 提供巨大的扭矩, 使得机器获得 强大的扭矩,能够适应任何复杂 困难的地层。

The great power of engine can suply a huge torque of the equipment. It provides the machine with a great torque and make it adapt to any complicated and difficult stratum.



方便的操控系统 Remote Control box

微电脑的操控平台,可根据工 况调节转速、扭矩、压入力,使 机器处于最佳工作状态,极大提 高了工作效率。 According to the working condition the operating system platform of micro computer can keep the machine at an

optimum working state by adjusting

the speed, torque and pressing force,

and promote the work efficiency to the

maximum.





在切削硬岩时,通过电脑的自 动控制,能够很好的保护刀头, 提高切削效率。 When cutting the hard rock, it can well protect the cutter head, enthance the cutting efficiency by the automatic

control of cmputer.

6







在碰到障碍物时,可瞬间加大 起拔力和扭矩, 使得障碍物得到 排除。

When encountering obstructions, it can instantly enhance the pulling force and torque to clear the obstrucion.



在动力站上设置控制系统的应 急模块,出现故障时,可使用应 急系统完成施工作业。

The emergency module control system is also set in the power station. When there is a malfunction, the emergency system can be adopted to complete the construction work.



方便行走的动力站, 使设备在 施工现场能够自如的行走,能够 很好的完成动力站的转移工作; 其支撑结构在工作时能够保证设 备的平稳及安全。

The traveling, which is convenient for traveling, can make the equipment travel freely on the construction site and complete itself transfer; the support structure can ensure the stability and safety of equipment during working.



液压动力站 Hydrulic power pack

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这是一种新型、环保、高效的钻进技术,近年来在城市地铁、深基坑围护咬合桩、废桩(地下障碍)的清理、高铁、道桥、城建桩的施工、 水库水坝的加固等项目中得到了广泛的应用。

这种全新的工艺工法的研究成功,实现了施工人员在卵、漂石地层、含溶洞地层、厚流沙地层、强缩颈地层、各类桩基础、钢筋砼结构等 障碍还没有清除的情况下就可以实现灌注桩、置换桩、地下连续墙等各类桩基础施工的可能。

全回转式全套管工法已在世界多个国家及地区如:新加坡、日本、香港地区、上海、杭州、北京、天津、成都等地成功的完成了5000多个 项目的施工任务。它一定会在今后的城市建设及其他的桩基施工领域发挥更大的作用。



The casing rotator is a new type drill with the integration of the full hydraulic power and transmission, and the combination control of machine, power and fluid. It is a new, environmental and highly efficient drilling technology. In recent years, it is widely adopted in the projects such as the constructions of urban subway, articulation pile of deep foundation pit enclosure, clearance of waste piles (undergroud obstructions), high-speed rail, road and bridge, and urban construction piles, as well as the reinforcement of reservoir dam.

The succesful research of this brand new process method has realized the possibilities for the construction workers to conduct the construction of casting piple, displacement pile, and undergroud continuous wall, as well as the possibilities for the pipe-jacking and shield tunnel to pass through the various pile foundations without barriers, when the obstructions, such as the gravel and boulder formation, cave formation, thick

Singapore, Japan, Hongkong District, Shanghai, Hangzhou, Beijing , Tianjin and Chengdu. It certainly will play a bigger role in the future urban

④ Drilling gravels, boulders and karst caves

4

- It is allowable to conduct the foundation piles construction at mountain lands with gravel and boulder formations.
- •It is allowable to conduct operation and cast the foundation piles at the thick guicksand formation and necking down stratum or the filling layer.

•Conduct rock-socketed drilling to the rock stratum, cast the foundation pile









多头爪 + 螺旋钻头 Multi linked gripper & Screw Head

◆根据需要,多头爪可以选配旋挖钻斗和螺旋钻头。 ◆低噪音、低振动的状态下工作。

◆能够选择悬吊钢丝绳的根数,因此可用小型起重机配合作业。 •The multi linked gripper can grip with in side of the casing surface and drive the screw head by casing rotation. +It is particularly worth nothing that operation low noise and low

vibration. •This device is optional equipment under requirements from CRD

liser

多头爪 + 旋挖钻斗 Multi likned gripper+ Bucket

多头爪是一种套管内部挖掘装置,在清除钢筋混凝土、钢桩 及破碎块石等地下障碍物时发挥巨大威力,它能有效地传递套管 的扭矩、压入力。

The multi liked grpper can grip with in side of the casing suface and drive the bucket by casing rotation. Itis priculaly worth nothing that operation low noise and low viration. *This device isoptional equipment under requirements from CRD user.

冲抓斗 + 重锤 Hammer Grab+Chizel

在岩层或有混凝土桩体冲抓斗不能冲挖时,用重锤反复冲击, 破碎后用冲抓斗挖掘。

这是经常用到的冲抓斗和重锤配合作业的工法。

This is conventional method to break through the rock sratum or reinfoprced concrete pile, obstacles. Breakdown the rock or concrete by chizel and removeout these debris by hammer grab continuously.





冲抓斗是主要的套管内部冲挖装置,依靠吊机的大小吊钩配合来完成冲挖作业。 ◆作业时冲抓斗沿套管内壁自由落下,下落速度快、冲击力强,硬质地层可直接冲挖,作业 效率高。

◆斗刃成圆弧形,且斗体重,可实现水下冲挖。 ◆内置滑轮组,抓紧力随起吊力的增加而成倍增加。 The hammer grab is common excavation device inside of the casing in this method and It is suspended with main drum wire to impact by free fall and excavate the soil or debris. The grabing shell is round shape and operated by auxiliary drum wire. Penetration speed is quite high speed by free fall and can use under water situation. Structure of the riging is effective for enforcing grabing power.







功能强大 用途广泛

该设备的应用领域主要涉及地下障碍物(包括 旧的混凝土预制桩、灌注桩、钢管桩、钢板桩等) 的拔除和置换,城市和沿海地区软基或硬岩地 区钻进成孔、复杂破碎的填石填海地层、沿海滩 涂和地下水丰富的砂层、卵砾石地层、喀斯特地 层的灌注桩施工。

> 工法技术灵活多样 机械化程度高 具有施工安全 可靠,成孔垂精度高 无泥浆污染等

CRD Casing Rotator Series 全回转式全套管码





to the steel bar: auished:

▲The hole froming diameter is standard, with little filling factor, Being compared with other hole forming methods, it can save a lot of concrete usage; ▲ The hole clearing is thorogh and fast. The drilling mud at the hole bottom can be clear to

about 3.0 cm.







采用全回转式全套管钻机施工的优势 The advantages of adopting the casing rotator for construction

▲低噪音,低振动,安全性高; ▲不使用泥浆,作业面干净,环保性好,并避免了泥浆进入砼中的可能性,成桩 质量高,有利于提高砼对钢筋的握裹力; ▲施工钻进时可以很直观的判别地层及岩石特性; ▲钻进速度快,对于一般土层,可达14m/小时左右; ▲钻进深度大,根据土层情况,最深已达158m; ▲成孔垂直度便于掌握,垂直度可以精确到1/500; ▲不会产生塌孔现象,成孔质量高; ▲成孔直径标准,充盈系数小,与其它成孔方法相比,可节约大量的砼用量; ▲清孔彻底,速度快,孔底钻渣可清至3.0cm左右。

▲ Low noise, Low vibration, and high safely;

▲ Without mud, clean working surface, good environmental frienliness, avoiding the possibility for mud to enter the concrete, high pile quality, enhancing the boud stress of concrete

▲ During construction drilling, the characteristics of stratum and rock can be directly distin-

▲ The drilling speed is fast and reaches about 14m/h for the general soil layer;

▲ the drilling depth is large and reaches about 158m according to the situation of soil layer;

▲ The hole forming verticality is easy to master, which can be accurate to 1/500;

▲ No hole collapse will be caused, and the hole forming quality is high.







机器钻进效果

Drilling performance of machine





岩石钻进 Rock drilling

全回转式全套管钻机具有强大扭矩及压入力,可完成 硬岩层中的施工任务。其可钻进的岩石硬度可达到:单 轴抗压强度150-200MPa。

因其完美的切削性能,它在切割: 砼块、高强螺栓、H 桩、钢管桩等清障施工中得到广泛的应用。

The Casing rotator, with the strong torque and pressing force can complete the construction task in the hard rock formation. The rock hardness which can be drilled can reach: the uniaxial compressive strength of 150-200MPa; Because of the perfect cutting performance, it has been widely applied in the clearing constructons of cutting concrete blocks, high strength bolts, H piles and steel pipe piles.



穿过溶洞进行灌注桩施工 Drill through the karst cave and conduct the casing pile construction

全回转式全套管钻机在溶洞施工中有其它施工工艺无法比拟优势:它不需回填块石、 不用另下套管。利用其自身良好的垂直度调节性能,钻速、钻压、扭矩的自动控制性 能,可轻松的完成穿过溶洞的钻进任务。在进行溶洞中的砼灌注时,它是在套管内进 行,添加了速凝剂的砼不易散失。且因钻机有强大的起拔力,还可延时起拔。所以,它 可很好的完成溶洞中的灌注桩施工任务。

The casing rotator possesses an incomparable advantage than other construction technologies: there is no need to refill the rock block and use additional casing. With the good verticality adjusting performance, the self-control properties of drilling pressure and torque, It can easily complete the drilling work trough the karst cave. When conducting the concrete casting in the karst cave, the operation is conducted in the casing. So the concrete added with setting accelerator is not easily lost. And because of the powerful pulling force of the drill, the pulling can be delayed. So, it can well complete the cast pile constructon in the cave

工作原理 自动控制装置 Automatic control device Working Principle



这是国际上最先进的自动控制系统,它是机、电、液一体的 完美表现、它极大的提高了施工的安全性及工效。

The automatic control device, which is the cutter head load control device, controls the pressure of thrust hydraulic oil cylinder, makes the cutter head load not change with the changes of the casing weight and the surrounding resistance, and keeps the machine in its optimum working state.

This is the most advanced automatic control system in the wrold. it is a perfect representation of the intergrated machine, power and fluid, which has greatly enhanced the safety and working efficiency of the construction.

CRD Casing Rotator Series





全回转式全套管钻机拔除钢筋混凝土桩是其它机械无法完成施工。 这种工法是用套管套住桩体进行切削作业,套管强大的回转扭矩可把桩 体扭断,用冲抓斗取出。根据施工条件的不同,可用分割切除、整体拔 除、重锤破碎及多头爪搅碎等工法清除。

The construction of adopting the casing rotator to pull out steel reinforced concrete piles cannot be completed by other machines. This construction method is: conduct the cutting work by using the casing to cover the pile body, then the strong rotary torque of casing can twist off the pile body and the ipmpact-grab bucket grabs it out. According to different construction conditions, the construction methods of division cutting-off, entire pulling-out, heavy hammer breaking and multi-head claw mashing can be adopted for the clearing.







This method is hybrid method with the casing rotator and multi rotary drilling rig to create a best mix of the advantage of the casing rotator hard rock drillng performance and the multi rotary drilling rig excavation efficiency and cycle-time.



此工法是以全回转式全套管 钻机作为主要的钻进机具,旋挖 钻配合取土的工法,能很好的发 挥全回转入岩和旋挖钻机快速取 土的优点,极大地提高了工效。





mm	Ø600~ Ø1300
kN⋅m	1400/825/466瞬时1583
rpm	1.6/2.7/4.8
kN	最大540
kN	2440瞬时2690
mm	500
ton	25(含过渡架,不含变径块)
	kN·m rpm kN kN kN mm

The main technical parameters of base machine:

Diameter of drill hole	mm	Ø600~ Ø1300	4
Rotary torque	kN⋅m	1400/825/466 Instantaneouos 1583	1
Rotary speed	rpm	1.6/2.7/4.8	
Lower pressure of sleeve	kN	Max540	
Puling force of sleeve	kN	2440 Instantaneouos 2690	
Pressure-pulling stroke	mm	500	-
Weight	ton	25 (With transition frame, without reduce	r blocks)
1.157		Di Contra di Con	



工作装置主要技术参数:

回转扭矩 回转速度	kN·m rpm	1525/906/512瞬时1744 1.3/2.2/3.9
套管下压力	kN	最大560
套管起拔力	kN	2440瞬时2690
压拔行程	mm	500
重量	ton	28 (含过渡架,不含变径块)

The main technical parameters of base machine:

Diameter of drill hole	mm	Ø800~ Ø1600
Rotary torque	kN⋅m	1525/906/512 Instantaneouos 1744
Rotary speed	rpm	1.3/2.2/3.9
Lower pressure of sleeve	kN	Max560
Puling force of sleeve	kN	2440 Instantaneous 2690
Pressure-pulling stroke	mm	500
Weight	ton	28 (With transition frame, without reduc

液压动力站主要技术参数:

发动机型号		东康 QSC8.3-C260
发动机功率	kw/rpm	196/1800 (194/2200额定)
发动机燃油消耗率	g/kwh	194 (最大功率时)
重量	ton	8
控制方式		有线遥控 / 无线遥控

The main technical parameters of power pack:

CRD Casing Rotator Series

Engine Model		DCEC QSC8.3-C260
Engine Power	kw/rpm	196/1800 (194/2200 rated)
Fuel consumption of engine	g/kwh	194 (when the maximum power rate)
weight	ton	8
Control mode		Wired remote control / wireless remote control





液压动力站主要技术参数:

发动机型号		东康 QSC8.3-C260
发动机功率	kw/rpm	196/1800 (194/2200额定)
发动机燃油消耗率	g/kwh	194 (最大功率时)
重量	ton	8
控制方式		有线遥控 / 无线遥控

Engine Model		DCEC QSC8.3-C260
Engine Power	kw/rpm	196/1800 (194/2200 rated)
Fuel consumption of engine	g/kwh	194 (when the maximum power rate)
weight	ton	8
Control mode		Wired remote control/wireless remote control









cer blocks)





钻孔直径	mm	Ø1000~ Ø1800		
回转扭矩	kN·m	2651/1567/885瞬时3005		
回转速度	rpm	1.1/1.8/3.3		
套管下压力	kN	最大600		
套管起拔力	kN	3760瞬时4300		
压拔行程	mm	500		
重量	ton	38 (含过渡架,不含变径块)		

4700



The main technical parameters of base machine:

	- 75		
Diameter of drill hole	mm	Ø1000~ Ø1800	
Rotary torque	kN⋅m	2651/1567/885 Instantaneouos 3005	
Rotary speed	rpm	1.1/1.8/3.3	O.
Lower pressure of sleeve	kN	Max600	6
Puling force of sleeve	kN	3760 Instantaneouos 4300	17
Pressure-pulling stroke	mm	500	<u>_</u>
Weight	ton	38 (With transition frame, without reduce	er blocks



钻孔直径mmØ1000~ Ø2000回转扭矩kN·m2965/1752/9908

工作装置主要技术参数:

10000000000	2005 /1752 /0000000000000	
ĸN∙m	2965/1752/990瞬时3391	
rpm	rpm 1.0/1.7/2.9	
KN 最大600 起拔力 kN 3760瞬时4300		
		mm
ton	46 (含过渡架,不含变径块)	
	kN kN mm	

Casing Rotator

The main technical parameters of base machine:

	12	
Diameter of drill hole	mm	Ø1000~ Ø2000
Rotary torque	kN⋅m	2965/1752/990 Instantaneouos 3391
Rotary speed	rpm	1.0/1.7/2.9
Lower pressure of sleeve	kN	Max600
Puling force of sleeve	kN	3760 Instantaneous 4300
Pressure-pulling stroke	mm	750
Weight	ton	46 (With transition frame, without reducer blo

液压动力站主要技术参数:

		康明斯 QSM11-335
发动机型号		沃尔沃TAD1152VE
华动切场变	kw/rpm	康明斯 272/1800 (250/2100额定)
发动机功率		沃尔沃 285/1700 (271/2000额定)
发动机燃油消耗率	g/kwh	康明斯 216 (最大功率时)
		沃尔沃 205 (最大功率时)
重量	ton	8
控制方式		有线遥控/无线遥控

Major technical parameters of hydraulic power pack:

		Cummins QSM11-335
Engine Model		Volvo TAD1152VE
		Cummins 272/1800 (250/2100 rated)
Engine Power	kw/rpm	Volvo 285/1700 (271/2000 rated)
		Cummins 216 (when the maximum power rate
Fuel consumption of engine	g/kwh	Volvo 205 (when the maximum power rate)
weight	ton	8
Control mode		有线遥控/无线遥控





液压动力站主要技术参数:

#>=======		康明斯 QSM11-335
发动机型号		沃尔沃TAD1152VE
#>=++11 =++ ===	kw/rpm	康明斯 272/1800 (250/2100额定)
发动机功率		沃尔沃 285/1700 (271/2000额定)
42-5-10 Mk 25-224 #5 25	g/kwh	康明斯 216 (最大功率时)
发动机燃油消耗率		沃尔沃 205 (最大功率时)
重量	ton	8
控制方式		有线遥控/无线遥控

	Cummins QSM11-335
	Volvo TAD1152VE
	Cummins 272/1800 (250/2100 rat
kw/rpm	Volvo 285/1700 (271/2000 rated)
e de de	Cummins 216 (when the maximur
g/kwn	Volvo 205 (when the maximum po
ton	8
	有线遥控/无线遥控
	kw/rpm g/kwh ton

















钻孔直径	mm	Ø1000~ Ø2100
回转扭矩	kN⋅m	3085/1823/1030瞬时3505
回转速度	rpm	0.9/1.5/2.7
套管下压力	kN	最大600
套管起拔力	kN	3760瞬间4300
压拔行程	mm	500
重量	ton	48 (含过渡架,不含变径块)

The main technical parameters of base machine:

Diameter of drill hole	mm	Ø1000~Ø2100
Rotary torque	kN∙m	3085/1823/1030 Instantaneouos 3505
Rotary speed	rpm	0.9/1.5/2.7
Lower pressure of sleeve	kN	Max.600
Puling force of sleeve	kN	3760Instantaneous 4300
Pressure-pulling stroke	mm	500
Weight	ton	48 (With transition frame, without reducer block







回转扭矩	kN·m 5292/3127/1766瞬日	
回转速度	rpm	0.6/1.0/1.8
套管下压力	kN	最大830
套管起拔力	kN	4210瞬间4810
压拔行程	mm	750
重量	ton	56 (含过渡架,不含变径块

工作装置主要技术参数:

mm

Casing Rotator

Ø1200~ Ø2600

The main technical parameters of base machine:

Diameter of drill hole	mm	Ø1200-Ø2600
Rotary torque	kN⋅m	5292/3127/1766 Instantaneouos 6174
Rotary speed	rpm	0.6/1.0/1.8
Lower pressure of sleeve	kN	Max.830
Puling force of sleeve	kN	4210 Instantaneous 4810
Pressure-pulling stroke	mm	750
Weight	ton	56 (With transition frame, without reduc

液压动力站主要技术参数:

		康明斯 QSM11-335
发动机型号		沃尔沃TAD1152VE
₩=======	kw/rpm	康明斯 272/1800 (250/2100额定)
发动机功率		沃尔沃 285/1700 (271/2000额定)
发动机燃油消耗率	g/kwh	康明斯 216 (最大功率时)
		沃尔沃 205 (最大功率时)
重量	ton	8
控制方式		有线遥控/无线遥控

Major technical parameters of hydraulic power pack:

	Cummins QSM11-335
	Volvo TAD1152VE
1	Cummins 272/1800 (250/2100 rated)
kw/rpm	Volvo 285/1700 (271/2000 rated)
a laub	Cummins 216 (when the maximum power rate
g/kwn	Volvo 205 (when the maximum power rate)
ton	8
	有线遥控/无线遥控
	kw/rpm g/kwh ton





液压动力站主要技术参数:

发动机型号		康明斯 QSX15-500
发动机功率	kw/rpm	410/1800 (373/2100额定)
发动机燃油消耗率	g/kwh	217 (最大功率时)
重量	ton	10
控制方式		有线遥控/无线遥控

Engine Model		Cummins QSX15-500
Engine Power	kw/rpm	410/1800 (373/2100 rated)
Fuel consumption of engine	g/kwh	217 (when the maximum power rate)
weight	ton	10
Control mode		Wired remote control/wireless remote contro















CRD3205H 全回转式全套管钻机 Casing Rotator

工作装置主要技术参数:

钻孔直径	mm	Ø2000~ Ø3200
回转扭矩	kN⋅m	9080/5368/3034瞬时10593
回转速度	rpm	0.6/1.0/1.8
套管下压力	kN	最大1100
套管起拔力	kN	7237瞬间8370
压拔行程	mm	750
重量	ton	96(含楔形辅助夹紧、过渡架,不含变径块



The main technical parameters of base machine:

Diameter of drill hole	mm	Ø2000~Ø3200
Rotary torque	kN∙m	9080/5368/3034 Instantaneouos 10593
Rotary speed	rpm	0.6/1.0/1.8
Lower pressure of sleeve	kN	Max.1100
Puling force of sleeve	kN	7237 Instantaneous 8370
Pressure-pulling stroke	mm	750
Weight	ton	96 (With wedge-shaped auxiliary clampin











液压动力站主要技术参数:

发动机型号		康明斯 QSX15-500+东康QSC8.3-C260
发动机功率	kw/rpm	410/1800 (373/2100额定) +196/1800 (194/2200额定)
发动机燃油消耗率	g/kwh	217+194 (最大功率时)
重量	ton	10+8
控制方式		有线遥控/无线遥控

Major technical parameters of hydraulic power pack:

	Cummins QSX15-500+DCEC QSC8.3-C260
kw/rpm	410/1800 (373/2100 rated) +196/1800 (194/2200 rated
g/kwh	217+194 (when the maximum power rate)
ton	10+8
	Wired remote control/wireless remote control
	g/kwh











CRD Casing Rotator Series 25-26





- 1 2. 石家庄地铁一号线新世纪隆站施工
- 3 4. 南京中级人民法院项目施工
- 5. 北京地铁14号线平乐园站施工
- 1 2. Construction of Steel Upright Post Vertical Insertion in New Century Long Station of Shijiazhuang Metro Line 1
- 3 4. Project of Steel Upright Post Vertical Insertion at Nanjing Intermediate People's Court Project
- 5. Construction of Steel Upright Post Vertical Insertion at Pingleyuan Station of Beijing Metro Line 14







CRD Casing Rotator Series 全回转式全套管钻机 27-28



施工案例 / CRD系列全回转式全套管钻机 **CONSTRUCTION CASES / CRD CASING ROTATOR**











1. 贵州六安铁路灌注桩施工 2. 徐州地铁一期工程文博园站施工 3. 四川茂县太平站成兰铁路施工 4. 河池俊蒙金地王写字楼施工

1. Construction of Guizhou Liuan railway cast-in-place pile project

2.Xuzhou 2# metro line first-stage project

3. Construction of Chenglan Railway in Taiping Station, Mao County, Sichuan

4. Hechi Junmeng Jindiwang Office Building Construction





2. 沈阳长青桥快速路改造工程 3.贵州贵阳保税区项目 4. 广东省珠海首府花园工程 5.中交大连湾海底隧道工程











CRD2106HZ 自行走式全回转钻机 Self propelled rotary drilling machine

CRD2106HZ自行走式全回转全套管钻机配备有行走履带,动力站集成一体,可自行转场对 桩。基板与工作装置底座上支腿油缸连接,随整机共同移动,底座离地间隙小(250mm),设备 配备空气站及高压冲洗装置,可为气动工具提供动力源及设备清洗。整机行走采用无线遥控,施工 主要以有线控制为主,管路连接均采用快速接头形式。 该设备配备履带装置,转场机动灵活,扭矩大,施工效率高等特点,广泛应用于道路、桥梁、码 头、高层建筑、栈桥、低空环境(如涵洞、隧道)等地基基础工程施工。

CRD2106HZ self-propelled full rotary full casing drilling rig is equipped with walking crawler and integrated power station, which can be transferred to the site for pile alignment. The base plate is connected with the outrigger oil cylinder on the base of the working device, which moves together with the whole machine. The clearance between the base and the ground is small (250mm). The equipment is equipped with air station and high-pressure flushing device, which can provide power source and equipment cleaning for pneumatic tools. The whole machine adopts wireless remote control, the construction mainly adopts wired control, and the pipeline connection adopts the form of quick joint.

The equipment is equipped with crawler device, which has the characteristics of flexible transition, large torque and high construction efficiency. It is widely used in road, bridge, wharf, high-rise building, trestle, low altitude environment (such as culvert, tunnel) and other foundation engineering construction.

主要参数 MAIN PRODUCT

CRD2106HZ

主要特点 MAIN FEATURES

- 整机配置履带行走系统,不需要大吨位履带起重机吊装转场; •
- 主机和动力站集成,转场不需要接拆胶管,降低非作业操作时间消耗,效率更高;
- 动力站当配重,无需额外增加配重提升整机下压力; .
- 配置高压水枪和气动扳手, 套管冲洗和接头拆装方便快捷, 劳动强度降低; .
- 配置行走无线遥控系统,轻松实现50m范围,全方位监视控制行走全过程。 .
- The whole machine is equipped with crawler traveling system, which does not require large tonnage crawler crane to hoist and transfer.
- Integration of main engine and power station, no need to connect and disassemble . rubber hose in transit, reduce the consumption of non-operation operation time, and achieve higher efficiency;
- Power station as counterweight, no additional counterweight lifting downforce of the whole machine:
- Equipped with high pressure water gun and pneumatic wrench, casing flushing and . joint disassembly are convenient and quick, and labor intensity is reduced.
- Configuration of remote control system for walking, easy to achieve a range of 50 . meters, omni-directional monitoring and control of the whole process of walking.





低净空全回转式全套管钻机是上工机械研发的一款新型钻机,主要用于隧道、桥梁涵洞等狭小作业空间内桩 基础施工。成桩直径覆盖500~1000mm,最大成桩深度40m,可满足宽4m、高4.8m隧道内作业的苛刻条件。 DCP1005H钻机由主机和动力站两部分组成,两者均配置履带行走系统,转场灵活、对桩便捷。工作时,动 力站通过液压胶管、反力叉与主机连接,为主机输出动力和提供回转反扭矩力。动力站采用大功率电驱动具有零 排放、无噪音的优点同时自带取土装置,无需附加设备即可实现取土成桩。

The DCP1005H tunnel type casing rotator is a new type of drilling machine developed by Xuzhou Dunan Heavy Industry Machinery Manufacturing Co., Ltd. It is mainly used for pile foundation construction in narrow and much limited spaces such as tunnels and bridge culverts. The pile diameter covers 500-1000mm, and the maximum pile depth is 40m, which can meet the harsh tunnel operation condition of 4m wide and 4.8m high. The DCP1005H casing rotator consists of two parts: the working device and the power station. Both of them are equipped with crawler walking systems, which are flexible in transition and convenient for aligning piles to the location. During operation, the power station is connected to the working device through a hydraulic hose and a reaction fork to output power and provide strong rotary torque for the working device. The power station adopts high-power electric drive with the advantages of zero discharge and no noise. At the same time, it equipped with earth-moving device, with which the device can borrow the soil without additional equipment.

DCP1005H

施工工艺





步骤一:设备进场、对桩心 Step 1: Set the equipment into the site and align with the pile core.

步骤四:钻进、取土

Step 4: drilling, earth borrowing

步骤二: 连接反力叉和动力站 Step 2: Counterforce fork is coupled to the power station



步骤五: 下钢筋笼和导管 Step 5: Set reinforcement cage and catheter



DCP1005H低净空全回转式全套管钻机

DCP1005H低净空全回转式全套管钻机 DCP1005H Low Clearance Full Casing Rotary Drilling Rig

主要型号 MAIN PRODUCT

CONSTRUCTION TECHNOLOGY





步骤三: 吊装套管 Step 3: emplacement hole



步骤六:灌注混凝土后,拔套管 Step 6:After concreting, then pulling casing pipes out

CRD2106HZ 自行走式全回转钻机

Self propelled rotary drilling machine

工作装置主要技术参数:

钻孔直径	mm	Ø1000~ Ø2100
回转扭矩	kN⋅m	3085/1823/1030瞬时3505
回转速度	rpm	0.9/1.5/2.7
套管下压力	kN	最大600
套管起拔力	kN	3760瞬间4300
压拔行程	mm	500
行走速度	km/h	0~1.5
爬坡能力		13°
行走离地高度	mm	250
重量	ton	69 (整机)

The main technical parameters of base machine:

Diameter of drill hole	mm	Ø1000~ Ø2100
Rotary torque	kN∙m	3085/1823/1030 Instantaneous 350
Rotary speed	rpm	0.9/1.5/2.7
Lower pressure of sleeve	kN	Max.600
Puling force of sleeve	kN	3760 Instantaneous 4300
Pressure-pulling stroke	mm	500
Walking speed	km/h	1.5
Climbing ability		13°
Walking height from the ground ${\sf mm}$		250
Weight	ton	69 (Complete machine)



DCP1005H 低净空全回转式全套管钻机 Low Clearance Full Casing Rotary Drilling Rig

工作装置主要技术参数:

钻孔直径	mm	Ø500~ Ø1000
回转扭矩	kN⋅m	845/525/290瞬时1050
回转速度	rpm	4.15/2.3/1.25
套管下压力	kN	最大300
套管起拔力	kN	2411瞬间2733
压拔行程	mm	450
重量	ton	31

The main technical parameters of base machine:

mm	Ø500~ Ø1000
kN∙m	845/525/290 Instantaneous 1050
rpm	4.15/2.3/1.25
kN	Max.300
kN	2411 Instantaneous 2733
mm	450
ton	31
	kN·m rpm kN kN mm

液压动力站主要技术参数:

发动机型号		康明斯 QSM11-335	
发动机功率	kW/rpm	272/1800	
燃油消耗率	g/kWh	216	
液压空压机排量	m³/h	1.3	
液压空压机压力	bar	12	
冲洗装置压力	Mpa	12	
选配		空压机、冲洗装置	
控制方式		有线遥控/无线遥控	

Major technical parameters of hydraulic power pack:

Engine model		Cummins QSM11-335
Engine power	kW/rpm	272-1800
Fuel consumption rate	g/kWh	216
Displacement of hydraulic air compressor	m³/h	1.3
Hydraulic air compressor pressure	bar	12
Pressure of flushing device	Мра	12
Matching		Air compressor/flushing device
control mode		Wired remote control/wireless remote control

Casing Rotator Series



液压动力站主要技术参数:

-4 YM-132M-4

Major technical parameters of hydraulic power pack:

Electromotor model		YE2-315S-4 YE2-280M-4 YM-132M-4
Electromotor power	kw	207.5(110+90+7.5)
weight	ton	10
control mode		Wired remote control + wireless remote





e control



产品介绍 / DBG系列全液压拔管机 **PRODUCT OVERVIEW / DBG Series Full Bydraulic Pipe Puller**

拔管机是各类岩土钻掘工程中钻机的配套辅助设备,适用于跟管钻进工艺施工,用 于起拔钻孔护壁套管,也可用于钻具事故处理中起拔套管;配合全回转、搓管机、旋挖 钻等进行拔管作业,能有效提升施工效率。DBG系列拔管机具有结构紧凑,起拔力强, 夹紧力大,安全可靠,反应灵活,操作维护简单、方便等优点。

Pipe-pulling machine is the auxiliary equipment of drilling rigs in various geotechnical drilling projects. It is suitable for following-pipe drilling process construction, for pulling out wall casing of drilling holes, and for pulling out casing in drilling tool accident treatment. Pipe-pulling operation with full rotation, pipe-rubbing machine and rotary drilling can effectively improve construction efficiency. DBG series pipe puller has the advantages of compact structure, strong pulling force, large clamping force, safety and reliability, flexible response, simple operation and maintenance, and convenience.

- 起拔力强,更适合大深度套管起拔; .
-
- .
- .
- .
- ۲
- . .
- .
- thread joint of the pipe puller.
- .
 - operation.



产品型号 PRODUCT MODEL

DBG1300 / DBG1600 / DBG2100 / DBG2500

主要特点 MAIN FEATURES

夹紧力大,大缸径、多油缸夹紧,不会出现传统拔管机套管打滑现象;

动力配置更合理,双电机液压驱动,依次启动,对工地电力配置要求低,低噪音、低能耗;

拆装更方便, 主机和动力站之间液压胶管配置快速接头, 比传统拔管机螺纹接头拆装更快捷; 安全性更高,配置灌桩拔管操作台和安全护栏,相比传统拔管机更符合安全规范;

配置无线遥控,DBG系列拔管机采用无线遥控技术,实现50m内,360°无死角观察和操作。

Strong pull-out force, more suitable for large depth casing pull-out;

Large clamping force, large cylinder diameter, multi-cylinder clamping, there will be no slippage phenomenon of traditional pipe puller casing;

Power configuration is more reasonable, dual motor hydraulic drive, start in turn, low requirements for site power configuration, low noise, low energy consumption;

It is more convenient to disassemble and assemble. The hydraulic hose between the main engine and the power station is equipped with quick joint, which is faster than the traditional

Safety is higher, equipped with cast-in-place pile pipe-pulling operation table and safety guardrail, which is more in line with safety standards than traditional pipe-pulling machine. Configuration of wireless remote control, DBG series pipe extruder using wireless remote control technology, to achieve within 50 meters, 360 degrees no dead angle observation and





mm	Ø600~ Ø1300	
mm	235	
kN	3600	
mm	600	
mm/s	25	
ton	8	
	mm kN mm mm/s	mm 235 kN 3600 mm 600 mm/s 25





工作装置主要技术参数:

拔管范围	mm	Ø800~ Ø1600
夹紧油缸行程	mm	235
最大起拔力	kN	4500
起拔行程	mm	600
最大起拔速度	mm/s	22
重量	ton	10

The main technical parameters of base machine:

Extubation range	mm	Ø600~ Ø1300	
Clamping cylinder stroke	mm	235	
Maximum pull-out force	kN	3600	
Up and down journey	mm	600	
Maximum pull-out speed	mm/s	25	
Weight	ton	8	



The main technical parameters of base machine:

mm	Ø800~ Ø1600	
mm	235	
kN	4500	
mm	600	
mm/s	22	
ton	10	
	mm kN mm mm/s	mm 235 kN 4500 mm 600 mm/s 22

液压动力站主要技术参数:

电机型号		YE2-250M-4	
电机功率	kW	55	
系统压力	MPa	30	
液压油箱容积	L	600	
重量	ton	3	
控制方式		无线遥控	

Major technical parameters of hydraulic power pack:

Motor Model		VE2 250M 4	
Motor Model		YE2-250M-4	
Motor power	kW	55	
System pressure	MPa	30	
Fuel tank volume L		600	
weight	ton	3	
Control mode		Wireless remote control	







液压动力站主要技术参数:

电机型号		YE2-250M-4
电机功率	kW	55
系统压力	MPa	30
液压油箱容积	L	600
重量	ton	3
控制方式		无线遥控

Motor Model	kW	YE2-250M-4	
Motor power MPa		55	
System pressure L		30	
Fuel tank volume ton		600	
weight		3	
Control mode		Wireless remote control	















拔管范围	mm	Ø1000~ Ø2100
夹紧油缸行程	mm	160
最大起拔力	kN	6000
起拔行程	mm	600
最大起拔速度	mm/s	36
重量	ton	21





工作装置主要技术参数:

拔管范围	mm	Ø1200~ Ø2500
夹紧油缸行程	mm	180
最大起拔力	kN	8000
起拔行程	mm	600
最大起拔速度	mm/s	22
重量	ton	25

The main technical parameters of base machine:

Extubation range	mm	Ø1200~ Ø2500
Clamping cylinder stroke	mm	180
Maximum pull-out force	kN	8000
Up and down journey	mm	600
Maximum pull-out speed	mm/s	22
Weight	ton	25

The main technical parameters of base machine:

Extubation range	mm	Ø1000~ Ø2100	
Clamping cylinder stroke	mm	160	
Maximum pull-out force	kN	6000	
Up and down journey	mm	600	
Maximum pull-out speed	mm/s	36	
Weight	ton	21	



液压动力站主要技术参数:

	YE2-250M-4
kW	110 (55kW*2)
MPa	30
L	750
ton	4
	无线遥控
	MPa L

Major technical parameters of hydraulic power pack:

Motor Model		YE2-250M-4
Motor power	kW	110 (55kW*2)
System pressure	MPa	30
Fuel tank volume	L	750
weight	ton	4
Control mode		Wireless remote control

DBC Full Hydraulic Pipe Drawing Mach

41-42







液压动力站主要技术参数:

电机型号		YE2-250M-4
电机功率	kW	110 (55kW*2)
系统压力	MPa	30
液压油箱容积	L	750
重量	ton	4
控制方式		无线遥控

Control mode		Wireless remote control
weight		4
Fuel tank volume	ton	750
System pressure	L	30
Motor power	MPa	110 (55kW*2)
Motor Model	kW	YE2-250M-4















DAG系列钢立柱植入设备 DAG Steel Column Implant Device

DAG系列钢立柱植入设备是一种新型钢立柱施工设备, 主要用于深层开挖、软弱地 层开挖和靠近建筑物施工的盖挖逆作工法。DAG系列钢立柱植入设备配置两套楔形液 压夹紧装置和高精度垂直控制系统,既可以将钢立柱植入到初凝前的混凝土中,也可以 先植钢立柱再浇混凝土。一台设备轻松包办两种钢立柱施工工艺,解决了传统钢立柱施 工配套设备多、精度低、成本高、效率慢等缺点。

DAG series steel column implantation equipment is a new type of steel column construction equipment, which is mainly used for deep excavation, soft ground excavation and construction close to buildings. DAG series steel column implantation equipment is equipped with two sets of wedge-shaped hydraulic clamping device and high precision vertical control system, which can not only implant steel column into concrete before initial setting, but also plant steel column before pouring concrete. One equipment can easily arrange two kinds of steel column construction technology, which solves the shortcomings of traditional steel column construction supporting equipment, low precision, high cost, slow efficiency and so on.

DAG1300 / DAG1600

		主要
	主机重量轻,	对配套
	楔块式夹紧,	主副夹
	行业首创三油	町缸副夹
•	施工不需要辅	前助夹紧
	电驱动液压动	力系统
	配置无线控制]系统,

- ۲ higher.
- . highly synchronous.
- . column implantation is increased by 20%. .
- protection and economy; .



PRODUCT OVERVIEW / DAG Steel Column Implant Device

产品型号 PRODUCT MODEL

要特点 MAIN FEATURES

套起重机要求更低;

夹紧同为数控机床制作的楔形抱紧装置,同轴精度更高;

夹紧技术,联动状态高度同步;

紧平台, 钢立柱植入垂直精度提升20%;

充,低噪音,低能耗,环保经济;

操作者可在0-50m范围内360°无死角监控钢立柱植入全过程。

The main engine is light in weight and has lower requirements for supporting cranes.

Wedge-block clamping, the main and auxiliary clamping device is the same as the wedge-shaped clamping device made for CNC machine tools, and the coaxial precision is

The industry pioneered the technology of three-cylinder pair clamping, and the linkage state is

No auxiliary clamping platform is needed for construction, and the vertical accuracy of steel

Electrically driven hydraulic power system, low noise, low energy consumption, environmental

With wireless control system, the operator can monitor the whole process of steel column implantation without dead angle in the range of 0-50m.



DAG1600 钢立柱植入设备 Steel Column Implantation Equipment

工作装置主要技术参数:

变径范围	mm	Ø600~ Ø1300
夹紧行程	mm	200
最大下压力	kN	800
压拔行程	mm	750
最大下压速度	mm/s	55
重量	ton	22





工作装置主要技术参数:

变径范围	mm	Ø800~ Ø1600
夹紧行程	mm	200
最大下压力	kN	1000
压拔行程	mm	750
最大下压速度	mm/s	55
重量	ton	24

The main technical parameters of base machine:

mm	Ø800~ Ø1600
mm	200
kN	1000
mm	750
ty mm/s	55
ton	24
	mm kN mm ty mm/s

The main technical parameters of base machine:

Variable diameter range	mm	Ø600~ Ø1300
Clamping stroke	mm	200
MaxDownward pressure	kN	800
Drawing stroke	mm	750
MaxDownward pressure veloci	ity mm/s	55
Weight	ton	22



液压动力站主要技术参数:

电机型号		YE2-225S-4
电机功率	kW	37
系统压力	MPa	25
液压油箱容积	Ĺ	700
重量	ton	3.5
控制方式		无线遥控

Major technical parameters of hydraulic power pack:

Motor Model		YE2-225S-4
Motor power	kW	37
System pressure	MPa	25
Fuel tank volume	L	700
weight	ton	3.5
Control mode		Wireless remote control







液压动力站主要技术参数:

电机型号		YE2-225M-4
电机功率	kW	45
系统压力	MPa	25
液压油箱容积	L	800
重量	ton	4
控制方式		无线遥控

kW	YE2-225M-4
MPa	45
L	25
ton	800
	4
	Wireless remote control
	MPa L



















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3、TESTING & TRAINING

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