

ZEGA

R8100L/R8100H

Surface Integrated Rotary/DTH Drill Rig



ZEGA R8100 is designed with ability of 2 drilling methods: rotary and DTH, and is equipped with 10.7-meter long drill pipe. The maximum hole depth is 62.5m.

Hole range: ϕ 149-270 mm



志高掘进
ZEGA

为强调效率和稳定性的用户提供合理选择

Reasonable choice for users with operation efficiency and reliability concerns

Mast

推进梁 1

■ 采用塔架式钻架结构，结构稳定、强度高。推进系统采用液压闭式循环给进系统，由两个液压油缸通过钢丝绳和重型链条平稳的进给和提升回转头来满足大推进力的要求。

■ ZEGA R8100 rotary drill rig adopts a drill mast with rigid structure and high strength. The hydraulic closed-circuit feeding system contains two hydraulic cylinders with steel wire rope and heavy-duty chain to pull down and pull back smoothly, satisfying the requirement of large pulldown force of rotary drilling.

■ 换杆机构采用转盘式换杆器，满足直径 $\phi 178\text{mm}$ ，长度10.7m钻杆尺寸要求，圆盘式换杆器最多能容纳 5 根钻杆。标准配备的辅助卷扬用于钻杆和钻具处理。

■ The rod handling system adopts a drill rod carousel to accommodate drill rods of $\phi 178\text{mm}$ and 10.7m in length, and the maximum capacity is 5 drill rods. The auxiliary winch as the standard configuration is designed to handle drill rods and drilling tools.

孔深仪物料包

Hole depth measurement kit



■ 显示屏界面可自动显示出凿岩深度，智能深度计量系统提高作业效率，使爆破数据更为精确。

■ The in-cab display screen shows the real-time drilling depth, and the intelligent depth metering system makes the operation more efficient and the blasting parameters more accurate.

液压回转头

Hydraulic rotary head



■ R8100回转头由齿轮箱及1个变量马达、1个定量马达组成。该回转头带有润滑油泵，保证高速运转下轴承得到充分润滑，保证寿命。

■ The rotary head consists of a gearbox, a variable displacement motor and a fixed displacement motor. The lubrication oil pump guarantees the sufficient lubrication of bearings under high-speed operation and prolongs the service life.

浮动头

Floating sub



■ 对钻头起到保护作用，提高钻进效率、减少钻具损坏。

■ The floating sub protects the drill bit, improves the drilling efficiency and reduces the damage to the drilling tools.



强中王者·物有所值 *Top performer! Sound investment!*

Wide view and user-friendly safety cab

视野开阔的人性化安全驾驶室 2



■ 驾驶室顶部,左、右侧配置避暑遮阳帘,极大提升驾驶舒适度,使您的驾驶操作过程不再饱受炎热之苦。

■ Cab top, left, right equipped with sunshades, it improves operating comfort, improves operation efficiency and safety.

■ 驾驶室顶部、前、后、左、右设置风挡防护网,经 FOPS 和 ROPS 严格测试认证,安全与舒适兼得,让您的操作无后顾之忧。

■ Windshield safety grid guard(Top, Front, Back, Left, Right), FOPS and ROPS certified cabs provide safety and comfort for worry-free operation.



■ 驾驶室底部、顶部照明灯,能够高效照亮推进梁换杆作业区域以及钻机前方地质状况,显著提升了操作的便捷性,同时也让作业安全性大幅提高;

■ Cab roof lights can efficiently illuminate the rod changer area and the drilling condition, which significantly improves the operation efficiency and greatly improves the safety of the operation.

■ 底部照明灯防护装置能够有效防止飞石对照明灯造成击碎损害,保障照明系统的正常运行。

■ The protective device of cab bottom light can effectively prevent the flying rock from causing damage to the lighting lamp and ensure the normal function of the lighting system.

Undercarriage and tramming system

底盘和行走系统 3

■ 行走履带 800 毫米宽,216节距三齿抓地履带板。单边履带带有12个承重轮;

■ The tramming track is 800mm wide with 216mm pitch triple grouser. Each side track is equipped with 12 track rollers.

■ 行走系统为两个闭式泵一对一的驱动闭式马达,行走速度达2km/h;

■ The tramming system is closed-circuit hydraulic system; two sets of one pump-drive-one motor respectively to achieve tramming speed of 2 km/h.

履带式重型底盘

Heavy-duty track undercarriage



■ 底盘为履带式重型底盘,“行走梁”与底架连接采用摆动式铰架使钻机可以在不均匀地面上行走,不会对主车架施加过大的扭应力。(浮动梁:两边各5°,共10°)

■ The heavy-duty undercarriage adopted a floating beam structure enables the drill rig to move on rugged terrain, which does not exert excessive torsional stress on the main frame. (Float beam: each side 5°, 10° in total).

Diesel engine and air compressor

发动机和空压机

■ 动力系统由柴油发动机一侧连接空压机和另一侧连接于可传动三台液压泵的齿轮箱组成。动力总成安装于独立的机架上。这种成一条直线的驱动链结构最大限度的提高了机械效率，同时独立的浮动分机架将动力组部件从钻进和行走震动负载中隔离开来。

■ ZEGA R8100 powerpack: one end of the diesel engine is directly connected to air compressor and another end is connected to a gearbox that can drive 3 hydraulic pumps. The powerpack is installed on a separated cradle. This kind of driveline structure in a straight line maximizes the mechanical efficiency. In addition, the separated floating cradle isolates the powerpack from the vibration load caused by drilling and tramming.



■ 配置燃油、液压油加油泵，方便液压油更换及燃油添加。

■ Equipped with hydraulic tank and fuel tank filling pump for easy hydraulic oil change and fuel filling.



■ 标配反吹式预滤器和唐纳森空滤，确保空压机与发动机进气系统的清洁度。

■ Standard configured with back-blow self-cleaning pre-filters and Donaldson air filters to ensure cleanliness of the engine and compressor intake system.

Dry dust collection technology

干式除尘技术



high efficient maintenance; Retractable dust collection hood for operator clear observation of collaring operation during collaring process.

■ 志高掘进的干式除尘技术领先行业：除尘清洗过滤面积大，自动连续自清式除尘；除尘滤芯阵列方便拆卸，维护工作效率高；集成罩可上下滑动，清晰观察开孔情况，进行开孔控制。

■ Zhigao (ZEGA) dry dust collection technology, industry leading. Large dust filter area and filter element automatic continuous self-cleaning; Dust filter elements easily removed with

纯湿式除尘系统

Water-mist dust suppression system (选配 Option)

■ 可以有效地降低灰尘污染，并且能够成功应对岩石松散的岩层成孔率状况，保障了工程的质量和进度。

■ It can effectively reduce the amount of dust emissions, and can cope with the completion rate of drilling holes in loose rock formations.



干湿混合除尘系统物料包

Dry dust collection and water-mist dust removal combined kit

■ 配置300L大容量水箱，可有效降低灰尘污染，并且能够成功应对岩石松散的岩层成孔率状况，保障工程的质量和进度。

■ With 300L water tank capacity, it can effectively reduce the amount of dust emissions, and can successfully cope with the completion rate of drilling holes in fractured rock formations.

Safety devices

机身安全装置



4方位视频影像显示 4-section screen video display

■ 4方位视频影像显示,让您在驾驶过程中对车辆周围情况了如指掌。

■ The 4-section screen video display keeps the driver informed during tramming to improve safety.

驾驶室摄像头功能物料包 Cab video monitoring display and camera system kit (选配 Option)

■ 驾驶室内设置广角摄像头,同时具备影像资料7天的存储功能,有利于实现安全、规范的操作流程。

■ A wide-angle camera in the cab, and a 7-day storage capacity for video data contribute to a safe and standardized operation process.

车身区域警示灯 Drill body shape indicator light



(非本机图片,仅供参考 The image shown is for illustrative purposes only)

■ 来自三个方位的红色警示灯带能够共同构建成一个安全警戒区域,用以提醒周边环境中的人畜切勿进入作业区域,从而有效避免潜在的安全事故。

■ The red lights in three directions can form a safety warning area to remind the surrounding area that people and animals should not enter the operation zone.

自动灭火系统 Automatic fire extinguishing system (选配 Option)



■ 若钻机出现火灾状况,此系统可实现自动感应,即刻启动灭火装置,减少损失,将火灾带来的危害控制在最小范围。

■ In the event of a fire on the drill rig, the system can automatically detect and immediately activate the fire extinguishing device, effectively reducing the loss and minimizing the damage caused by the fire.

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吊耳 Lifting lugs



■ 钻机在吊装方面具备便捷性,运输起来也轻松方便,为施工场地的转移提供了极大的便利。

■ Simplifying and facilitating the lifting and transportation of the drilling rig provides great convenience for the transfer of the work site.

底盘甲板服务通道 Deck service passage



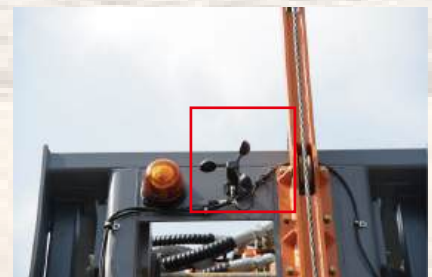
■ 底盘上带栏杆的甲板服务通道,日常维护方便,安全。

■ The deck service passage with guardrails improves the convenience and safety of daily maintenance.

风速检测和报警 Wind speed detection and alarm

■ 强风天气对风力等级进行检测,避免钻机在极端恶劣天气下运行。

■ The wind speed can be detected in heavy windy weather to ensure safety operation.



Remote control system

遥控系统



近程遥控系统 Line-of-sight distance remote control system

■ 这种技术可以达成人机分离,实现全功能的近程遥控操作作业,尤其在进行边坡作业过程中,安全性更为突出,保障了施工的顺利与人员的安全。

■ This technology separates the operator from the rig and realizes full-featured wireless remote control in the line of sight, especially in the process of slope treatment, which makes the safety more prominent.

Centralized lubrication system

集中润滑系统

自动集中润滑系统 Automatic centralized lubrication

■ 具备周期性自动为全车转动副和摩擦副进行油脂润滑的功能,减少人工干预,实现降低成本和提高效率的双重效果。

■ It can periodically and automatically lubricate the rotating pair and friction pair of the whole drilling rig to reduce costs and improve efficiency.

适用工况 Working conditions



Environmental adaptation system

环境适应系统



环境温度显示 Ambient temperature display

■ 位于极寒和极热的区域时,驾驶员能够依据实时的外界温度状况做好相应防护措施,然后外出进行作业,保障工作的正常推进。

■ When the rig is located in an extremely cold and hot area, the operator can take corresponding protective measures according to the real-time ambient temperature conditions, and then go out to carry out the operation to ensure the normal and safe progress of the work

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高原物料包 High altitude kit (选配 Option)

■ 针对特定需求扩充电池的功率,可增加恒定功率启动的时间,在寒带和高原等区域能够切实提升启动的效率,增强了设备的环境适应性。

■ The increased battery capacity can extend the starting time of the starter, which can effectively improve the chance of successful starting in cold zones and high-altitude areas. The environmental adaptability of the equipment is greatly enhanced.

■ 空压机卸载启动,降低启动进程中的负载量,以方便在极寒和高原地区顺利启动,满足了特殊环境下的使用需求。

■ With Air compressor unloading start, The load at starting is reduced to facilitate smooth starting in extremely cold and plateau areas, which meets the needs of use in special environments.

寒区装置 Cold weather kit (选配 Option)

■ 其独具特色的寒带优化设计,能够适应最低温度 -45 度的使用要求,是寒带地区工作的理想之选。

■ The special cold zone design can meet the requirements of drilling rig operation at the lowest temperature of minus 45 degrees Celsius in winter.



■ 在极寒地带,使用该装置通过燃烧柴油和热交换的原理加热防冻液,使发动机机体升温,便于启动。

■ In extreme cold regions, the kit heats the antifreeze coolant by burning diesel heaters and heat exchange, heating up the engine block for easy start-up.

(非本机图片,仅供参考)

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发动机 Engine

品牌 Manufacturer	康明斯 Cummins	卡特彼勒 CAT
型号 Model	QSK19-C800	CAT C18
排放标准 Emission standards	国III China III	国III China III
额定功率 Rated power	597 kW (800 hp)	571 kW (770 hp)
转速 Rotation rate	1,800 rpm	2,100 rpm

主要技术参数 Technical specifications

螺杆空压机 Screw Compressor	R8100L	R8100H
品牌 Manufacturer	ZHIGAO	ZHIGAO
型号 Model	ZGDA 225 III	ZGDA 225 III
工作风压 Air working pressure	8 bar (116 psi)	24 bar (348 psi)
排风量 Air flow FAD	54 m³ / min	43 m³ / min
钻臂和铝合金推进梁 Boom & Aluminum alloy feed beam	R8100L	R8100H
推进方式 Feed type	油缸+钢丝绳/Hydraulic cylinder +Rope	
推进器总长度 Feed length	14,672 mm	14,672 mm
推进行程 Feed travel length	12,059 mm	12,059 mm
最大推进力 Feed force	340 kN	270 kN
最大推进速度 Feed rate	0.81 m / s	0.81 m / s
最大拉拔力 Pull up force	125 kN	93.8 kN
功能参数 Functional Specifications		
储杆仓储杆数 Drill pipe handling capacity	5+1	
孔径范围 Hole range	φ 149 – 270 mm	
钻杆直径 Drill rod size	178/159/140 mm	
钻杆长度 Drill pipe length	10.7 m	
孔深 Hole depth	62.5 m	
冲击器 DTH hammer	10"	
回转扭矩 Rotation torque	11,800 N.m	
回转速度 Rotation speed	0 - 160 rpm	
燃油箱容量 Fuel tank capacity	2,700 L	
可调平底盘 with oscillation cylinders Chassis		
最大行走速度 Tramming speed.Max	2 km / h	
最大爬坡能力 Hill climbing ability.Max	20°	
离地间隙 Carrier ground clearance	326 mm	
履带架摆动 Track frame oscillation angle	两边各5°, 总计10° / 5° each side, total 10°	
最大驱动力 Traction force.Max	156.2 kN	
重量及运输尺寸 Weight & Transport Dimensions		
长度 Length	15,600 mm	
宽度 Width	5,443 mm	
高度 Height	5,962 mm	
重量 Weight (不含选配件 w/o option)	60,000 kg	

标准配置 Standard configuration

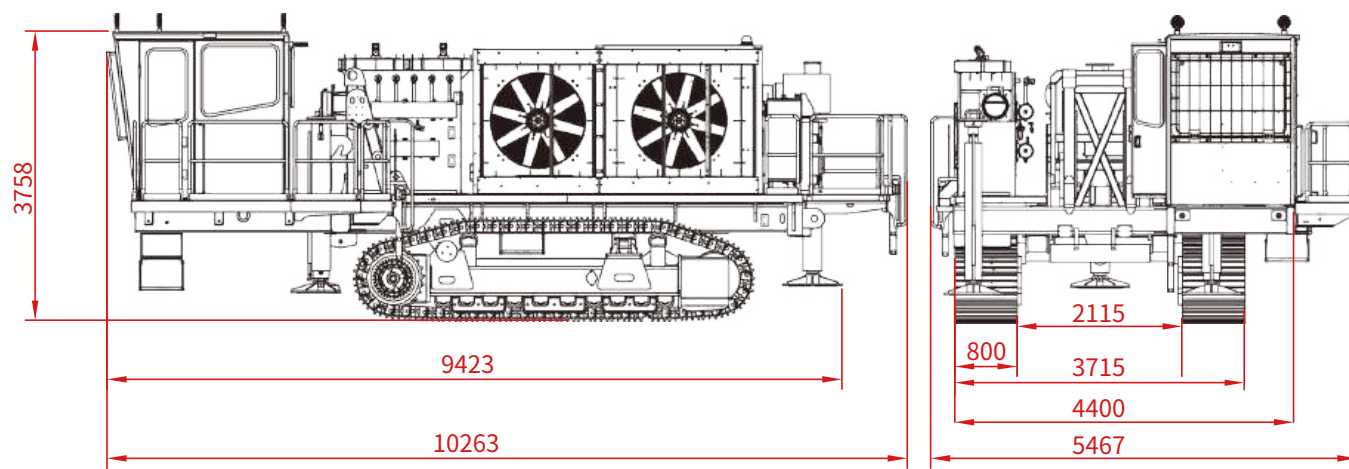
安全驾驶室, 带冷暖空调, 后视镜和可多角度调整的座椅等设施 Safety cab with air conditioning / heating, rear view mirrors and multi-angle adjustable operator seat	
噪音等级≤80dB, 操作手柄置于座椅扶手上, 符合人体工程学Noise level ≤ 80 dB (A), ergonomic designed operating joystick on the armrest of the seat	
燃油节省装置 (冲击风压闲时自动卸载、发动机自动调速功能等) Fuel saving system (auto unloading at percussion idle time, engine auto speed adjustment)	
自动换杆系统	Automatic drill pipe handling system
粉尘预分离器	Dust pre-separator
干式集尘器, 可自动连续清洗滤芯	Dry dust collector with filter element automatic continuous cleaning
液压回转头	Hydraulic motor driven rotary head
冲击器润滑装置	Hammer lubrication system
钻管螺纹润滑装置	Pipe thread lubrication system
液压行走马达	Hydraulic tramming motor
配备三齿履带板的重型履带架	Heavy duty track frame with 3 - tooth
倒车报警器	Back up alarm
工作灯	Work lights
自动紧急安全停车装置	Emergency Auto shutdown
带过滤装置的电动液压油加油泵	Electrical pump with filtration for hydraulic oil refill
智能远程管理系统	Remote intelligent management system
自动防卡系统	Auto anti-jamming system
电动燃油加油泵	Electrical pump for fuel refill
支腿位置报警功能	Leveling jacks position alarm
车身水平角度显示和行走超范围报警提示	Inclination display and out-of-range alarm during tramming
推进器打孔角度显示+未回落行走报警提示	Drill angle display + tramming alarm when the mast is not lowered
环境温度显示	Ambient temperature display
风速检测和报警	Wind speed detection and alarm
自动集中润滑系统	Automatic centralized lubrication system
孔深仪物料包	Hole depth measurement kit
浮动头	Floating sub
热带配置	Tropical kit
反吹空滤物料包	Reverse-flow cleaning air filter kit
近程遥控系统	Line-of-sight distance remote control system
驾驶室摄像头功能物料包	Cab video monitoring display and camera system kit
干湿混合除尘系统物料包	Dry dust collection and water-mist dust removal combined kit
车身区域警示灯	Drill body shape indicator light

可选装部件 Optional equipment

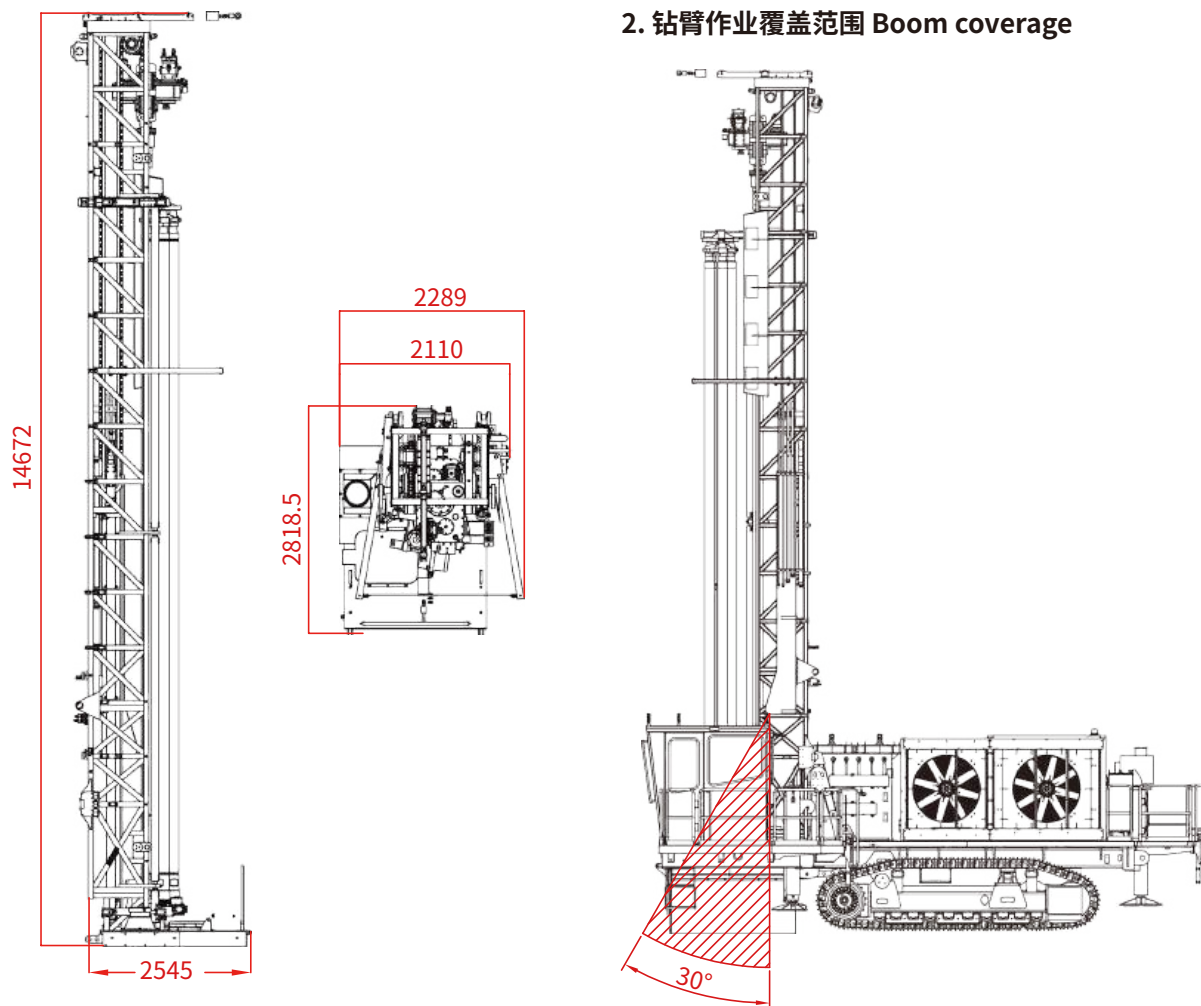
纯湿式除尘系统	Water-mist dust removal system	自动灭火系统	Automatic fire extinguishing system
高原物料包	High altitude kit	寒区装置	Cold weather kit

1. 整机尺寸 Dimensions

运输 Transport



2. 钻臂作业覆盖范围 Boom coverage



Product pictures in this brochure may be equipped with options and all specifications are subject to change without prior notice. Please consult your local representatives of Zhigao.



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SHIRAZ MACHINERY

 **ZEGA**



R8100L/H

Engine

Manufacturer
Cummins

Model
QSK19-C800

Rated Power
597 kW (800 hp)

R8100L

Air Working Pressure
8 bar (116 psi)

Air Flow FAD
54 m³ / min

Feed Length
14,672 mm

R8100H

Air Working Pressure
24 bar (348 psi)

Air Flow FAD
43 m³ / min

Feed Length
14,672 mm

Hole Range

6" - 11"

Drill Pipe Handling Capacity

5+1

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