

ZEGA

D480A

Integrated DTH Surface Drill Rig



Efficient and accurate blast hole drilling, for open pit mines, quarries bench excavation.

Hole range: $\phi 138-203$ 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 stability concerns

Feed beam and boom

钻臂和推进梁 1

- 采用7米钻杆的高强度铝合金推进梁及不锈钢防护套，轻便、耐用、高效。
- Configured 7 - meter long drill pipe with high-strength aluminum alloy feed beam and stainless steel protective cover, light weight, durable and efficient.
- 马达链条推进系统，推进力控制精度高，大扭矩回转头运行平稳。
- Motor-chain feeding system, precise feeding force control, large torque rotary head feeding smoothly.



进尺深度参考标记 Feed depth reference markers

- 带有反光功能的深度参考标记，为操作员提供了一目了然的可视化穿孔深度参考。
- Feed depth reference markers (with reflective function) provide the operator with a visual reference of the drill depth.



孔深仪物料包 Hole depth measurement kit (选配 Option)

- 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.

Floating hose reel

浮动式卷管器 2

- 专利设计的浮动式卷管器，消除油管变形集中点，延长使用寿命。
- The patented floating hose reel avoiding deformation point of hose and for longer hose service life.



浮动头 Floating-sub (选配 Option)

- 在钻杆和回转头之间增加的机械缓冲传动机构，可有效衰减冲击器冲击产生的振动反向传递，减少共振的产生，降低振动对回转头及整套推进机构的损害，同时也可缓冲钻具接卸时对螺纹的刚性冲击，延长钻具的使用寿命。
- The mechanical shock absorption mechanism added between the drill pipe and the rotary head can effectively absorb the reverse transmission of the vibration generated by the impact of the hammer, reduce the occurrence of resonance, reduce the damage of the vibration to the rotary head and the whole set of propulsion.



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 3

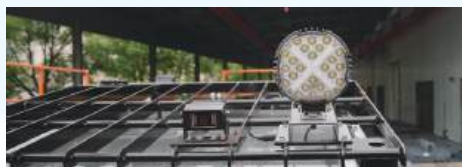


■ 驾驶室顶部, 左、右侧配置避暑遮阳帘, 极大提升驾驶舒适度, 使您的驾驶操作过程不再饱受炎热之苦。

■ 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 of the feed beam and the terrain ahead, 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.

New breakout table

新型卸钎平台 4

■ 新型卸钎平台的应用, 视线更佳, 操作更便捷。

■ New breakout table for pipe handling for better sight and operation convenience!

Heavy duty track chassis

履带式重型底盘 5

■ 履带架液压摆动装置摆架 $\pm 10^\circ$, 牵引力大, 离地间隙高, 越野性能好。

■ Heavy duty track chassis, track frame hydraulic oscillation angle $\pm 10^\circ$, with strong traction force, high ground clearance and good off-road performance.

液压后支腿

Hydraulic rear support leg (选配 Option)



■ 在进行凿岩穿孔作业的过程中, 支腿油缸能够提供更为稳固的后部支撑, 让机身维持良好的平衡状态, 从而使得成孔质量获得提升。

■ During drilling, the hydraulic rear support leg provides more stable rear support, keeping the body balanced and making better hole quality.



Diesel engine and air compressor

发动机和空压机



■ 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.



■ 标配弗列加空滤，确保空压机与发动机进气系统的清洁度。

■ The engine and compressor air intake system filters are equipped with a Fleetguard air filter as standard, to ensure the cleanliness of the air intake system.



国际品牌发动机+两级压缩螺杆主机 International brand engine + Dual-stage compression screw air end

■ 康明斯发动机和志高二级压缩螺杆主机配置，保证了设备的稳定性。

■ The configuration of Cummins engine and ZEGA advanced dual-stage compression screw compressor for operation stability.



油浴式空滤物料包 Oil-bath air filter package (选配 Option)

■ 油浴式空滤预滤是在发动机和空压机空滤的前端又增加了一套内置油盘靠油液吸附灰尘颗粒的滤芯，可有效应对环境较为恶劣的尘沙工况。

■ The oil-bath air filter option adds an oil-bath-element to the front of the conventional air filters of the engine and air compressor to pre-filter dust particles, which can effectively cope with the harsh and dusty environment.



反吹空滤物料包 Reverse-flow cleaning air filter kit (选配 Option)

■ 在沙尘环境下，反吹式空滤预滤在发动机和空压机空滤的前端又配置了一套自洁式空滤（借助空压机产生的压缩空气进行自洁），能够有效地解决环境恶劣的沙尘工况带来的问题，提升了设备的可靠性。

■ Reverse blowing air filter pre-filtration device is to add a set of self-cleaning air filter (clean with compressed air generated by the air compressor) at the front end of the engine and air compressor air filter, which can effectively cope with the harsh dusty and sandy working conditions.

Dry dust collection technology

干式除尘技术



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



纯湿式除尘系统 Water-mist dust removal 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 successfully cope with the completion rate of drilling holes in loose rock formations.

(非本机图片，仅供参考
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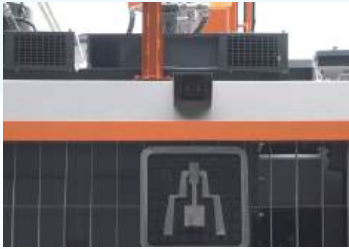
干湿混合除尘系统物料包 Dry dust collection and water-mist dust removal combined kit (选配 Option)

■ 配置大容量水箱，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 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



倒车影像

Reversing camera monitoring screen system

- 360 度环视车身影像监测, 让您在驾驶过程中对车辆周围情况了如指掌。
- 360-degree video real-time monitoring of the area around the rig during operation to ensure production safety.



顶部防滑贴

Anti-slip strip on the top of the engine room

- 采用的防滑措施有力地预防作业人员在工作中滑倒, 降低了事故发生的可能性。
- Effectively prevent workers from slipping, and reduces the likelihood of accidents.



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.

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 (选配 Option)



- 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 environment that people and animals should not enter the operation area.

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 sense and immediately activate the fire extinguishing device, effectively reducing the loss and minimizing the damage caused by the fire.

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



机舱照明灯

Machine room lighting

- 在人员进入机舱开展作业之时, 打开照明灯, 能使维修保养作业的视线明显改善, 效率明显增高, 降低了作业难度, 保障了作业质量。
- When the technician enters the machine engine room, turn on the light, which can significantly improve the line of sight of the maintenance.

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机身外壳顶部防护栏

Drill body top protection guardrail

- 切实保障人员在钻机顶部作业期间的安全, 有效防止高处跌落风险。围栏高度依照当地法律规定进行制作, 采用伸缩式设计, 同时满足运输需求, 大大提高了设备的实用性。
- Effectively secure personal safety when working on the top of the rig to avoid falling hazards, and the guard rail height is made according to local legal requirements (The guard rail can be raised/lowered to meet transport requirements).

Remote control system

遥控系统



近程遥控系统 Line-of-sight distance remote control system (选配 Option)

■ 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 system (选配 Option)

■ 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 (选配 Option)

■ 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

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.

热带配置 Tropical kit (选配 Option)

■ 针对热带环境的设计, 可符合最高温度为 +50 度的使用需求, 使其在炎热的热带环境中稳定运行

■ Special tropical climate or high ambient temperature configurations can meet the operating requirements of the maximum ambient temperature of +50 degrees Celsius.

发动机 Engine

品牌 Manufacturer	康明斯 Cummins	康明斯 Cummins
型号 Model	QSZ13	M14CS4IV41C
排放标准 Emission standards	国III China III	国IV China IV
额定功率 Rated power	410 kW (552 hp)	412 kW (552 hp)
转速 Rotation rate	1,900 rpm	2,100 rpm

主要技术参数 Technical specifications

螺杆空压机 Screw Compressor	
品牌 Manufacturer	ZHIGAO
型号 Model	ZGDA184III
工作风压 Air working pressure	25 bar (362.5 psi)
排风量 Air flow FAD	33 m³ / min
钻臂和铝合金推进梁 Boom & Aluminum alloy feed beam	
钻臂型式 Boom type	高强度单直臂/Heavy duty single boom
推进方式 Feed type	马达+链条方式/Hydraulic motor-chain feeding system
推进器总长度 Feed length	11,500 mm
推进补偿 Feed extension	1,300 mm
推进行程 Feed travel length	7,600 mm
最大推进力 Feed force	40 kN
最大推进速度 Feed rate	0.9 m / s
最大拉拔力 Pull up force	50 kN
功能参数 Functional Specifications	
储杆仓储杆数 Drill pipe handling capacity	4+1
孔径范围 Hole range	φ 138 – 203 mm
钻杆直径 Drill rod size	114 mm (选配 Optional 102/127 mm)
钻杆长度 Drill pipe length	7m(选配 Optional 5 / 6m)
孔深 Hole depth	35 m
冲击器 DTH hammer	6" (选配 Optional 7"/8")
回转扭距 Rotation torque	5,600 N.m
回转速度 Rotation speed	0 - 80 rpm
燃油箱容量 Fuel tank capacity	1,000 L
可调平底盘 with oscillation cylinders Chassis	
最大行走速度 Tramming speed.Max	3 km / h
最大爬坡能力 Hill climbing ability.Max	25°
离地间隙 Carrier ground clearance	420 mm
履带架摆动 Track frame oscillation angle	± 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	12,560 mm
宽度 Width	2,700 mm
高度 Height	3,560 mm
重量 Weight (不含选配件 w/o option)	25,000 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
可移动式捕尘罩, 便于观察开孔准确性	Retractable dust hood to observe hole collaring accuracy
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
推进梁延伸补偿机构	Feed beam extension compensation mechanism
高强度铝合金推进梁	Aluminum alloy feed beam
冲击器润滑装置	Hammer lubrication system
钻管螺纹润滑装置	Pipe thread lubrication system
浮动式液压油管跟管器	Floating hose reel and follower
双速液压行走马达	Dual speed hydraulic tramming motor
配备三齿履带板的重型履带架	Heavy duty track frame with 3 - tooth
液压钻管导向装置及钻管拆卸机械手	Hydraulic drill pipe guiding device and drill pipe handling platform
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
液压卡钎器	Hydraulic rod / pipe clamping system
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
机身外壳顶部防护栏	Drill body top protection guardrail

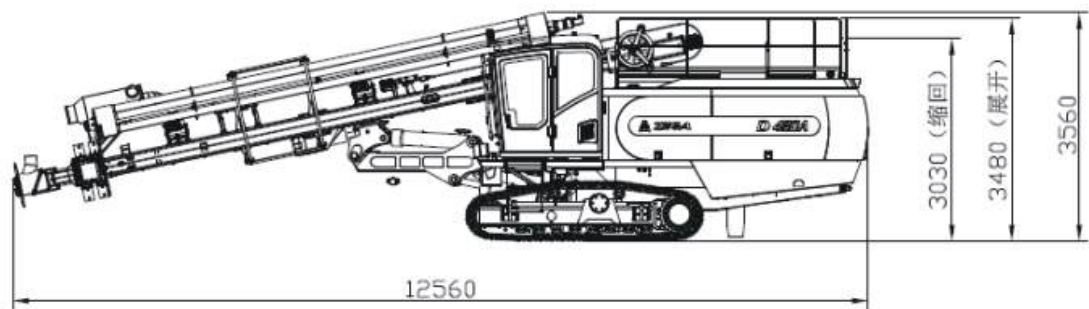
可选装部件 Optional equipment

孔深仪物料包	Hole depth measurement kit	浮动头	Floating-sub
油浴式空滤物料包	Oil-bath air filter package	液压后支腿	Hydraulic rear support leg
纯湿式除尘系统	Water-mist dust removal system	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	反吹空滤物料包	Reverse-flow cleaning air filter kit
自动灭火系统	Automatic fire extinguishing system	驾驶室摄像头功能物料包	Cab video monitoring display and camera system kit
自动集中润滑系统	Automatic centralized lubrication system	近程遥控系统	Line-of-sight distance remote control system
环境温度显示	Ambient temperature display	寒区装置	Cold weather kit
高原物料包	High altitude kit	热带配置	Tropical kit

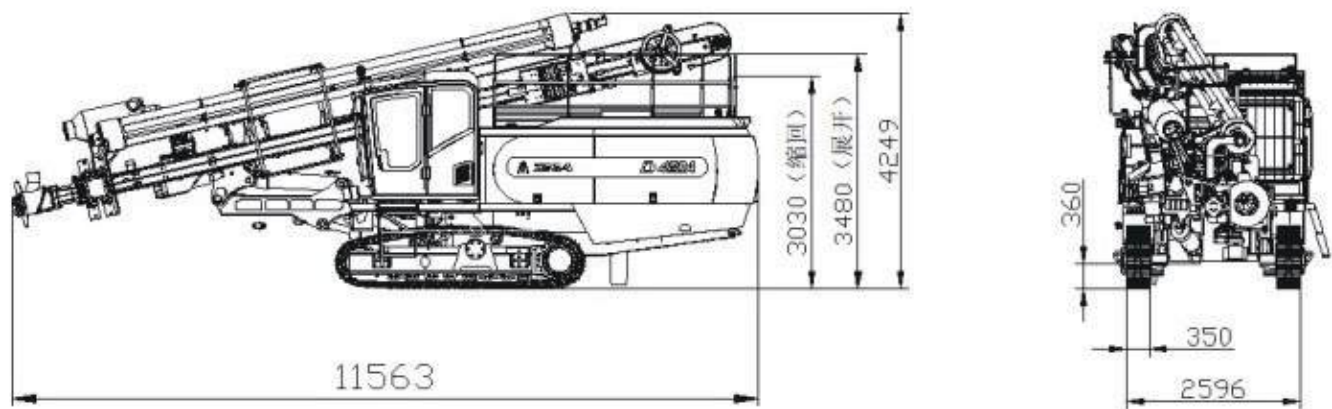
1. 整机尺寸 Dimensions

运输 Transport

运输总宽度Transport Overall width: 2,700 mm



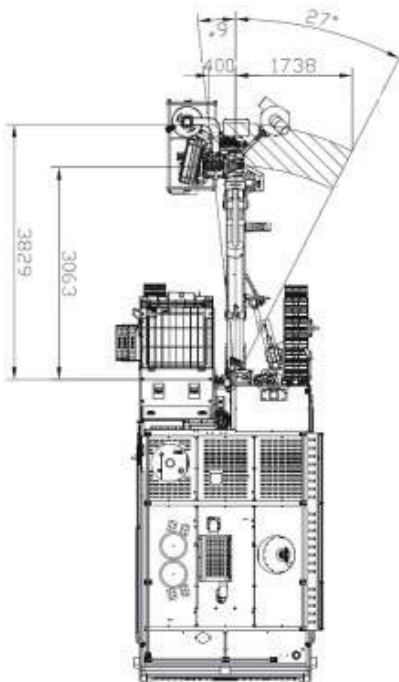
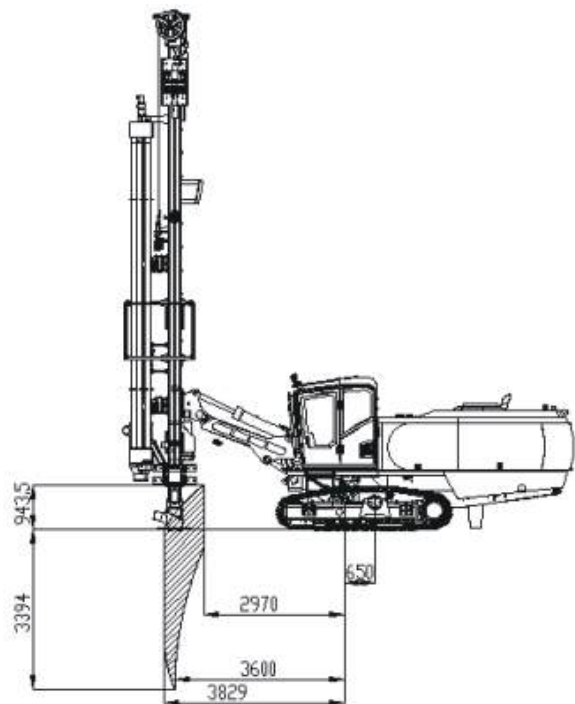
行走 Tramming



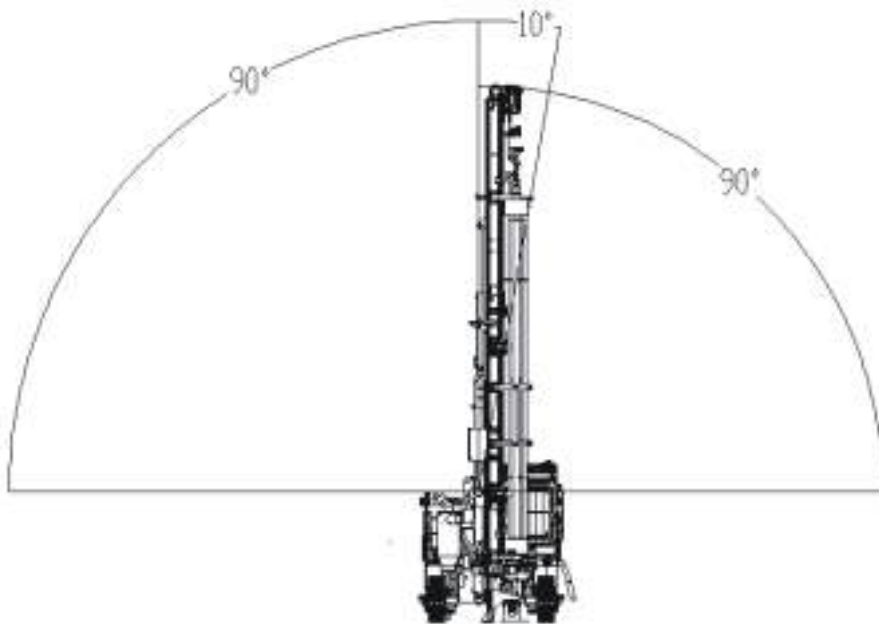
2. 钻臂作业覆盖范围 Boom coverage

垂直开孔定位
Vertical Drilling Coverage in Vertical Plane

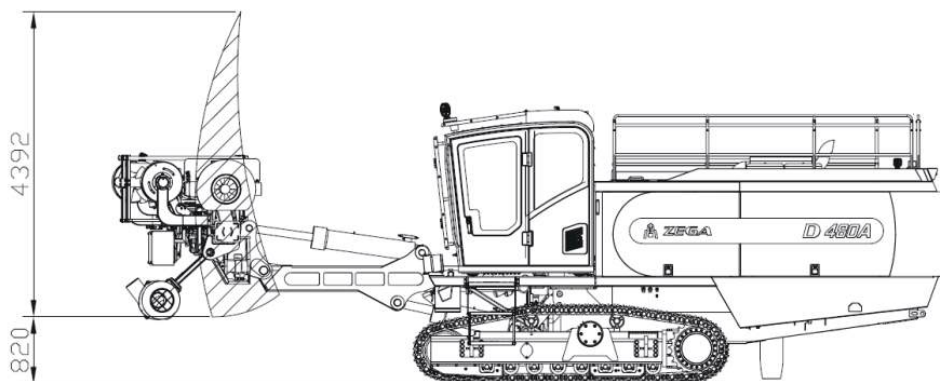
垂直钻孔水平方向
Vertical Drilling Coverage in Horizontal Plane



推进梁摆动角度
Swing Angle of Feed Beam



水平钻孔垂直方向
Horizontal Drilling 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.

Arya Shiraz Heavy Machinery (Ltd.)

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ARYA
SHIRAZ MACHINERY

 **ZEGA**



D480A

Engine

Manufacturer
Cummins

Model
QSZ13

Rated Power
410 kW (552 hp)

Air Working Pressure

25 bar (362.5 psi)

Air Flow FAD

33 m³ / min

Feed Length

11,500 mm

Hole Range

5" - 8"

Drill Pipe Handling Capacity

4+1

Weight

25 ton

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