

ZOOMLION

ZDH152G/A一体式潜孔钻机

技术规格书

ZDH152G/A Integrated Down-the-hole

Drill TECHNICAL SPECIFICATIONS



中联重科股份有限公司矿山机械事业部

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ZDH152G/A Integrated Down-the-Hole Drilling Rig

Technical Specifications

1 概述 Overview

ZDH152G/A 一体式潜孔钻机性能可靠、造型美观，配备高可靠性的潜孔钻机配件、先进的电液比例控制技术、优化的发动机功率匹配等关键成熟技术，整机设计达到国际先进水平，可广泛用于冶金、煤炭、建材、铁路、水电建设及土石方等工程爆破孔钻凿作业中。

ZDH152G/A integrated DTH drilling rig with reliable performance, beautiful appearance. It equipped with high reliability down-the-hole drill accessories, advanced electro-hydraulic proportion control technology, optimized engine power matching and other key mature technologies. The whole machine design has reached the international advanced level, can be widely used in metallurgy, coal, building materials, railway, hydropower construction and earth and rock engineering blasting hole drilling operations.

用能效比极佳的阿特拉斯双极螺杆空气压缩机和 $4800\text{N}\cdot\text{m}$ 大扭矩回转头，实现高风压快速凿岩。具有优异的燃油经济表现，能满足多方位钻孔要求、作业范围广、能耗低、效率高、操作轻便灵活、维护简便。

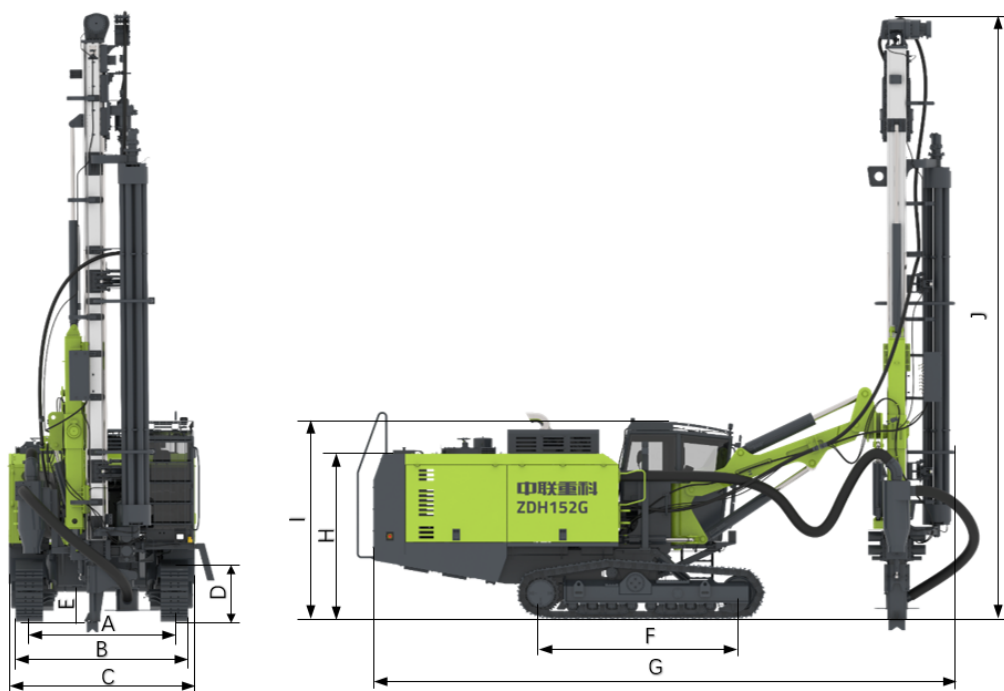
With the excellent energy efficiency ratio of Atlas two-stage screw air compressor and $4800\text{N}\cdot\text{m}$ large torque rotary head to achieve high wind pressure for fast rock drilling. It has excellent fuel economy performance can meet the requirements of multi-directional drilling, wide operating range, low energy consumption, high efficiency, light and flexible operation, and easy maintenance.

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Note: Our company reserves the right to revise the content due to technical improvement. If there is any change without prior notice please understand it.



外形示意图-Outline diagram: (单位 Co.: mm)



整机关键尺寸 Key dimensions (单位 Co.: mm)

参数描述 Parameter Description	代号 Code	尺寸 Dimension	参数描述 Parameter Description	代号 Code	尺寸 Dimension
履带中心距 Track Gauge	A	2109	履带前后轮距 Distance between Front and Rear Wheel of Track	F	2920
履带最大宽度 Maximum Track Width	B	2509	工作时整机长度 Working Length of overall Machine	G	8806
整机宽度 Overall Machine Width	C	2700	覆盖件高度 Height of Cover	H	2440
履带最大高度 Maximum Track Height	D	904	司机室顶高度 Machine Height to Top of Cab	I	2921
离地高度 Ground Clearance	E	434	工作时整机高度 Working Height of Overall Machine	J	8992

2 主要技术特点 Main Technical Features

采用高可靠、强动力的玉柴发动机；先进的高压共轨电控燃油喷射技术、进气中冷技术、涡轮增压技术、冷启动电控预热技术为螺杆式空压机及液压系统提供强大的动力，动力储备能力高达 15%，在恶劣的工作环境具有更高的适应能力；

Equipped with high-reliability and powerful Yuchai engines, this system features advanced high-pressure common-rail electronic fuel injection technology, intake air cooling technology, turbocharging technology, and cold start electronic preheating technology, providing robust power for screw air compressors and hydraulic systems. It has a remarkable 15% power reserve capability, enabling exceptional adaptability in harsh working environments.

采用 Atlas Copco X-AIR688-20 双级螺杆空压机，配置短冲程高频率的新一代冲击器，钻孔效率可提高 20%；

Using Atlas Copco X-AIR688-20 two-stage screw air compressor, equipped with a new generation of short stroke and high frequency impact, drilling efficiency can be increased by 20%.

采用钻机专用底盘及大功率液压双速马达驱动的牵引系统，保证钻机在非常恶劣的场地平稳行走以及具有安全良好的定位，可更快更方便的移动；

The traction system driven by the special chassis of the rig and the high-power hydraulic two-speed motor ensures that the rig can walk smoothly in the very harsh site and has a safe and good positioning, witch can move faster and more convenient.

配置高效的两级干式除尘系统，防止粉尘污染；

With efficient two-stage dry dust removal system to prevent dust pollution.

具有钻杆自动拆装机构和多杆钻杆库，可实现钻杆的自动接卸杆作业，操作方便，平稳可靠，大大减轻了工人的劳动强度。同时，采用 5m 钻杆，缩短接卸杆的时间，提高了工作效率。

With the drill pipe automatic disassembly mechanism and multi-rod drill pipe library, can realize the drill pipe automatic rod unloading operation, easy to operate, stable and reliable, greatly reduce the labor intensity of workers. At the same time, 5m drill rod is used to shorten the time of loading and unloading rod and improve the working efficiency.

具有自动防卡钻功能，卡钻时自动停止与反转回退，防止设备损伤，增强了



钻机对复杂岩层钻进的适应能力。大臂摆动幅度大，减少移机的时间。

With automatic anti-stuck drilling function, automatic stop and reverse back when stuck drilling, prevent equipment damage, enhance the rig's adaptability to complex rock drilling. Large swing of the boom system, reduce the time of moving the machine.

回转头提供强大的扭矩，可在显示界面提前预设推进和回转速度，通过按键固定推进速度和回转速度钻进，实现自动钻孔。

Rotary head provides powerful torque, boost and turn speed can be preset in advance on the display interface, and the boost speed and turn speed can be fixed by pressing the button to realize automatic drilling.

具有钻杆螺纹自动润滑系统，有效的提高钻杆润滑效率及使用寿命。

With automatic lubrication system of drill pipe thread, effectively improve the lubrication efficiency and service life of drill pipe.

驾驶室按照国际安全防范标准设计的防落石 FOPS 安全结构，按人机工程学设计的内饰布置，配备全新触控操作系统，人机交互界面友好，视野开阔，操作便捷舒适。

The cab is designed in accordance with international safety standards for rock fall prevention FOPS safety structure, according to ergonomic design of the interior layout, equipped with a new touch operating system, human-computer interaction interface friendly, wide vision, easy to operate and comfortable.



3 主要技术参数 Main Technical parameters

型号 Model		单位 Unit	ZDH152G	ZDH152A
整机体重 Body weight		kg	20000	19800
钻孔范围 Drilling range	孔径范围 Aperture range	mm	$\phi 115-165$	
	钻杆数量 Number of drill pipe	个	6+1	
	钻杆规格 Drill pipe specification	mm	102×5,000	
发动机 Engine	型号 Model	/	YCK11380-T400	YCK09400-T300
	排放标准 Emission standard	/	国Ⅳ	国Ⅲ
	额定功率 Rated power	kw/rpm	279/2100	295/1900
回转头 Rotary head	最大工作扭矩 Working torque, max	N·m	4800	
	最大回转速度 Rotation speed, max	rpm	108	
空压机 Air compressor	排风量 Air volume	m ³ /min	19.6	
	最大工作压力 Working pressure, max	bar	20	
推进梁 Feed	最大拉拔力 Drawing force, max	KN	43	
	推进行程 Advance travel	mm	5460	
	推进补偿 Advance compensation	mm	1300	



行走系统 Walking system	最大行走速度 Walking speed, max	km/h	3.2
	爬坡能力 Climbing ability	°	25
	履带架摆动 Track frame swing	°	±10
	离地间隙 Ground clearance	mm	≥430
注：本规范以产品改进为准，可在不另行通知的情况下更新。 Note: this specification is subject to product improvement and can be updated without notice.			

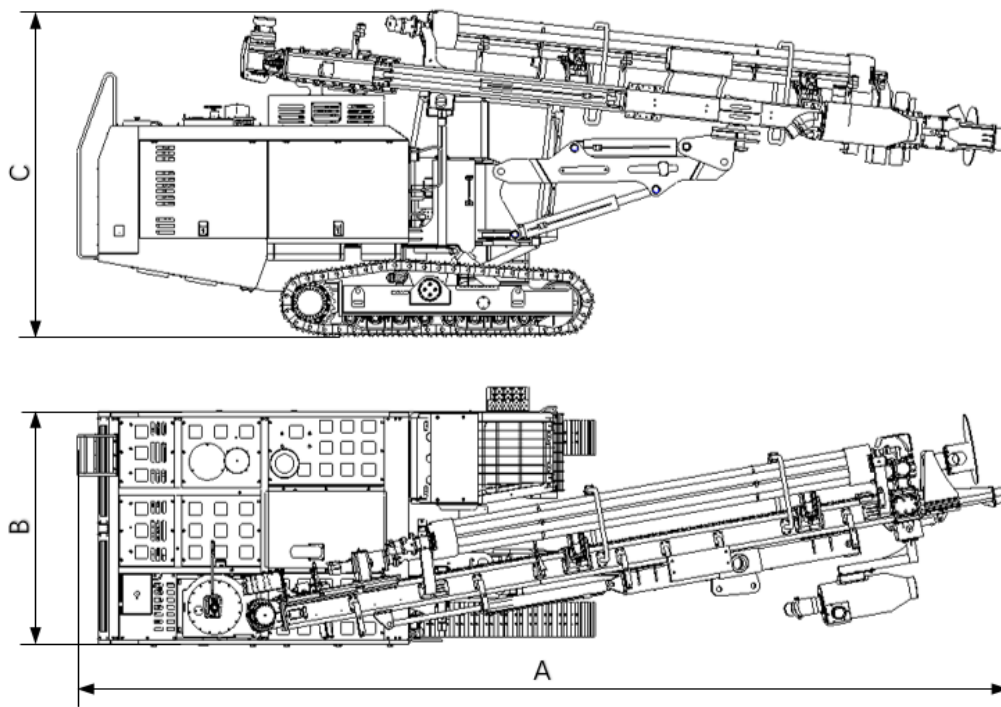
4 标准配置表 Standard Equipment Table

序号 Serial	部件名称 Name of Equipment		生产商 Manufacturer
1	动力系统 Power System	发动机 Engine	玉柴 Yuchai
2		空气滤清器 Air Filter	广西华源 Watyuan
3		联轴器 Coupler	瑞吉 Reijay
4		冷却器 Cooler	林州玖淇 JIUQI
5	底盘系统 Chassis System	履带总成 Track Assembly	中联 ZOOMLION
6		减速机 Speed Reducer	中润 CHCC
7		行走马达 Moving Motor	中润 CHCC
8	电气系统 Electric System	主控制器 Main Controller	力士乐 Rexroth
9		中央控制盒 Central control unit	中联智能 ZOOMLION
10	液压系统 Hydraulic System	主泵（柱塞变量泵） Main Pump (variable displacement piston pump)	中润 CHCC
11		副泵（齿轮泵） Salve pump (gear pump)	泊姆克 PERMCO
12		马达 Motor	伊顿 Eaton
13		油缸 Oil Cylinder	阿凡特 AVANTER
14		胶管 Rubber Tube	中联 ZOOMLION
15		阀 Valve	丹佛斯/飒联 Danfoss/SL
16	气动系统 Pneumatic	空压机 Air Compressor	阿特拉斯 Atlas

17	System	储气罐 Gas Canister	阿特拉斯 Atlas
18	除尘系统 Dust Pelletizing System	集尘箱 Dust Collector	克莱特 Redit



5 运输方案 Transport Plan



参数 Parameter	重量 Weight	A	B	C
单位 Unit	Kg	mm	mm	mm
ZDH152G	20000	10850	2700	3780
ZDH152A	19800			

6 工作范围 Scope of work

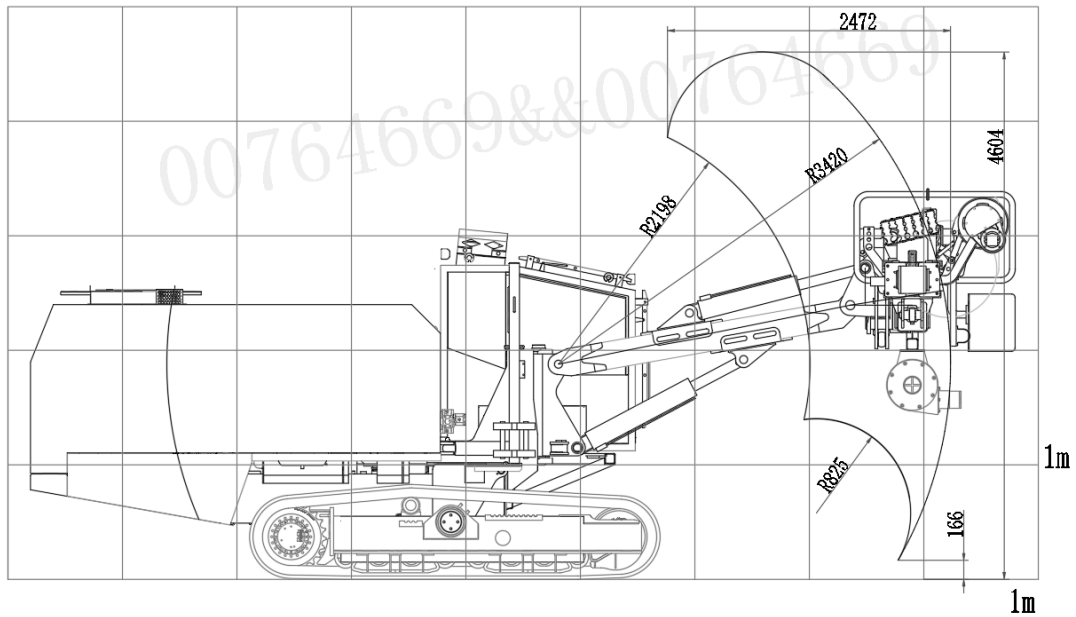


图 6-1 ZDH152G/A 水平钻孔垂直方向

Figure 6-1 ZDH152G/A horizontal drilling vertical direction

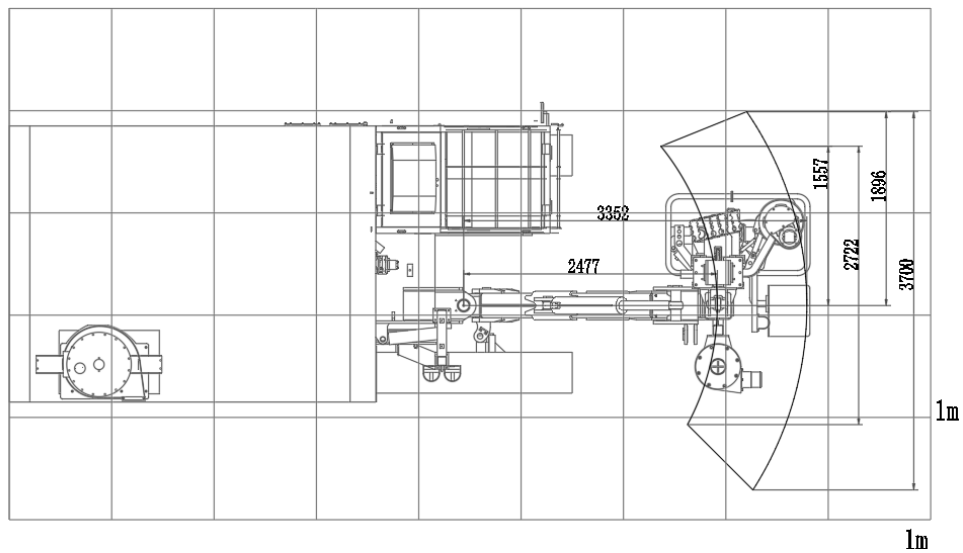


图 6-2 ZDH152G/A 垂直钻孔水平方向

Figure 6-2 ZDH152G/A vertical drilling horizontal direction

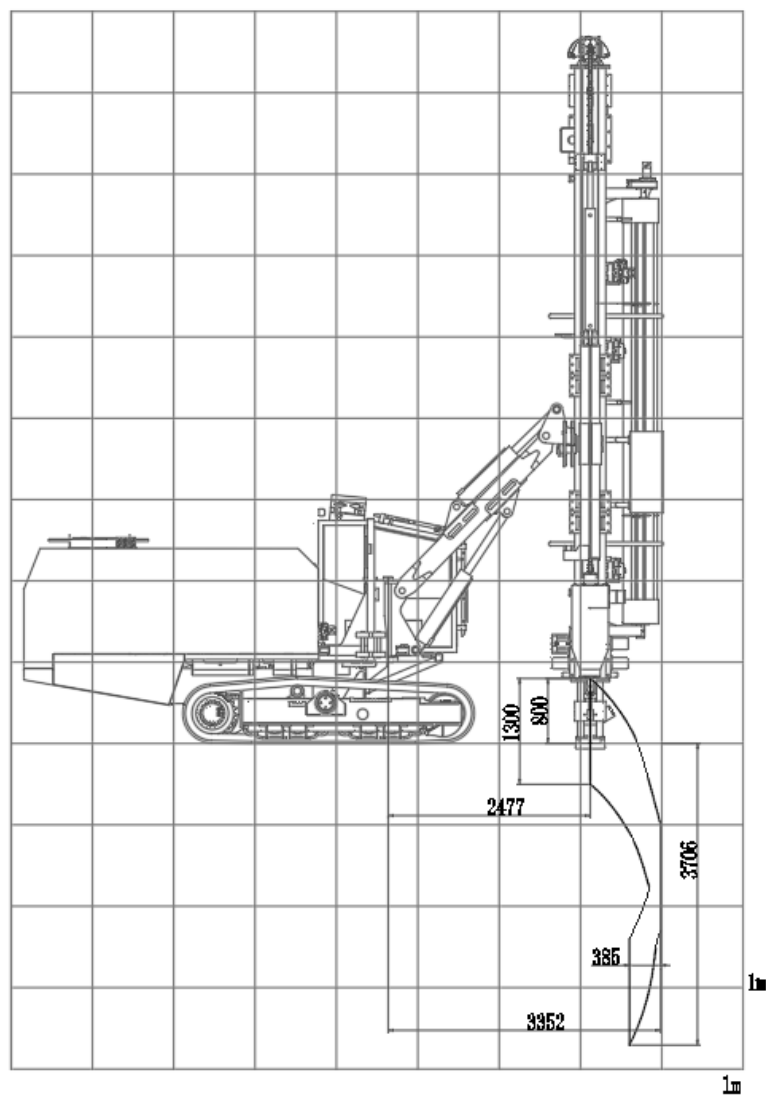


图 6-3 ZDH152G/A 垂直钻孔垂直方向

Figure 6-3 ZDH152G/A vertical drilling vertical direction

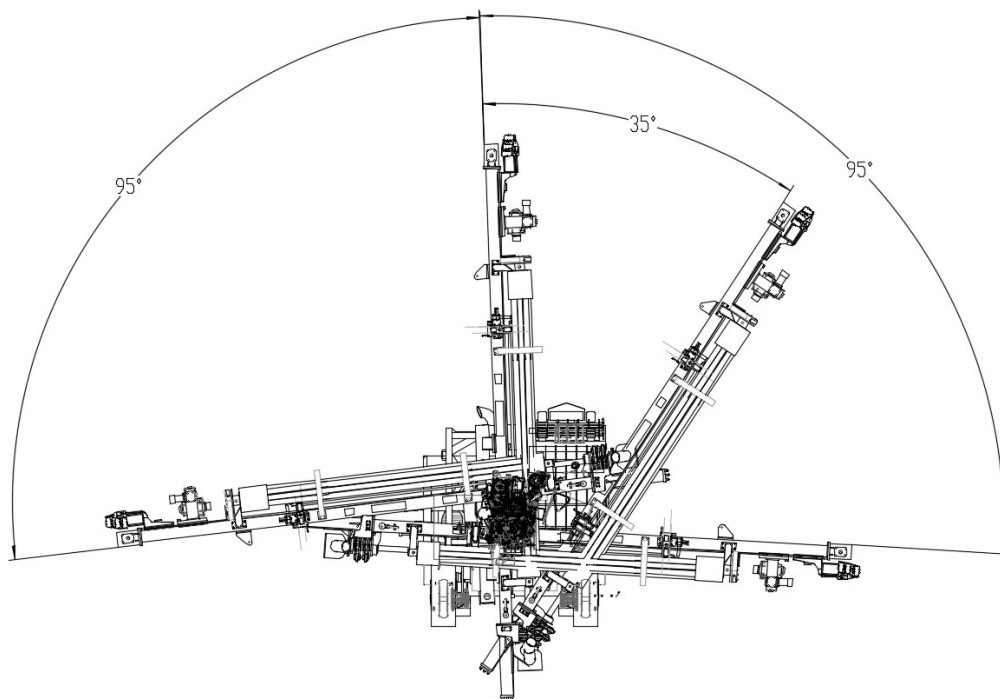


图 6-4 ZDH152G/A 推进梁摆动角度

Figure 6-4 ZDH152G/A feed pendulum angle

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