



山河智能装备股份有限公司
SUNWARD INTELLIGENT EQUIPMENT CO.,LTD.

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使用设备时一定要认真阅读操作与保养手册。山河智能遵循不断完善的原则，对产品的部分改进或许可以通报阁下，本图册仅作参考，最终解释权属山河智能。
内部资料 请勿外传
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SWD CH&EN 2018-8

SWDR系列切削钻机
SWDR series rotary cutting drill rig



山河智能装备集团是中南大学何清华教授领衔于1999年创办，现已发展为以上市公司山河智能装备股份有限公司（证券代码：002097）为核心，以长沙为总部，以装备制造为主业，在国内外具有一定影响力的国际化企业集团，跻身于全球工程机械企业50强、世界挖掘机企业20强、世界支线飞机租赁前3强。

公司产学研一体化，依靠先导式创新，以差异化产品实现跨越式发展。集团总资产超过108亿元，员工3500余人。响应供给侧改革要求，公司战略业务定位于“一点三线”（“一点”就是聚焦装备制造，“三线”就是工程装备、军用装备、航空装备），已创新研发出200多个规格型号，具有自主知识产权和核心竞争力的高性能产品。

职业化的营销服务团队、遍布全球的营销服务网络使集团产品畅销国内外，出口100多个国家和地区，“SUNWARD”商标在数十个国家注册。

山河智能获得“国家认定企业技术中心”、“国家博士后科研工作站”、“国家创新型企业”、“国家技术创新示范企业”、“国际科技合作基地”、“国家863成果产业化基地”、“国家工程机械动员中心”等称号。党和国家领导人李克强、温家宝等来到山河智能视察、指导，均对集团的自主创新能力给予了充分肯定和高度评价。

企业秉持以“修身、治业，怀天下”为核心价值观。未来的山河智能将继续发挥自主创新优势，为客户创造价值、为人类提高生活品位，不断推出具有世界影响力的产品，成为世界级知名制造企业。

Sunward Intelligent Equipment Group was founded in 1999 led by Central South University Professor Mr. He Qinghua. Today, it has been developed into the Sunward Intelligent Equipment Co., Ltd. (stock short name: Sunward Intelligent; stock code: 002097), which headquartered in Changsha City and focus on equipment manufacturing, owning independent intellectual property and makes global influences, ranking among top 50 global construction machineries manufacturing enterprises and top 20 global excavator brands. World top 3 of rental regional aircraft.

Sunward holds typical feature of industry-university-research-integration, which has achieved leap development depending on its differentiated competitive and leading innovation. The total asset is more than 10.8 billions Yuan and the member of staff is over 3,500 responding to the supply-side reform requirements. Sunward's strategic businesses positioned on the "one point and three aspects" (one point refers to focus on the equipments manufacturing; three aspects refer to engineering equipments, military equipments and aviation equipments). Sunward has researched and developed more than 200 specifications models of products, with high performance of independent intellectual property rights and core competitiveness.

Sunward has a professional marketing and service groups, along with its strong sales networks in the world which makes its products have been actively demanded throughout the country and exported to more than 100 countries and areas around the world. The brand "SUNWARD" has already been registered in dozens of countries worldwide.

Sunward has obtained a number of honors, such as the "National-recognized Enterprise Technology Center", the "National Study and Work Station for Post-doctors", the "National Innovative Enterprise", the "National Innovating Enterprise", the "International Science and Technology Cooperation Base", the "National 863 Base of Industrialized Products", and the "National Mobilizing Center of Engineering Machineries", etc.

Party and state leaders Li Keqiang, Wen Jiabao came to Sunward to inspect and guide. Both of them gave full recognition and high evaluation of the group's independent innovation ability

Sunward holds the core value of "Self-cultivation and enterprising". Sunward will continue the advantage of independent innovation ability, create value for customers and improve human life quality. Sunward will also continue to introduce products with world influence and become to be a world-class manufacturing enterprise.



公司创始人何清华教授从上世纪80年代开始致力凿岩设备的研究，在公司创立之初通过承接国家项目及省部级项目，创造了凿岩设备行业的“三个第一”，第一台纯国产全液压凿岩钻车、第一台露天液压凿岩钻车、国内第一台隧道凿岩机器人；积累了深厚的凿岩理论，形成专业领域内唯一的两本专著《隧道凿岩机器人》、《液压冲击机构研究·设计》，引领中国凿岩设备的发展。

2003年中国第一台自主知识产权的一体化潜孔钻机顺利下线，填补国内空白，技术性能达到国际先进水平，彻底打破国际巨头对高端凿岩设备市场的垄断，逐步替代进口。历时15年开发了门类齐全、岩层适应性广的系列凿岩设备，走出了一条凿岩设备自主创新道路，形成了完善的研发、制造体系。

山河智能系列凿岩设备包括一体化潜孔钻机、全液压露天钻车、多功能切削钻机、螺旋地桩钻机、井下凿岩台车等，广泛应用于水泥、冶金、煤矿、采石场等矿山开采和铁路公路、水利水电、国防建设、房建、新能源等工程建设。

Professor He Qinghua, the founder of the company has been dedicated to the development of rock drilling equipment since the 1980s. Before the establishment of the company, they created “three firsts” of China’s rock drilling equipment industry by undertaking national projects and via university-industry cooperation. The “three firsts” include the first wholly localized all hydraulic drilling rig, the first generation of open-pit hydraulic rock drilling rig, and the first tunnel drilling robot in China. On this basis, they improved his theory and published two books, the Tunnel Rock-Drilling Robot and the Research and Design of Hydraulic Impact Mechanism, which have led the development of rock drilling equipment in China.

In 2003, China’s first Integrated drilling rig with proprietary intellectual property rights successfully went off the assembly line. Its technical performance has reached an advanced level in the world, completely breaking the monopoly of international giants on the high-end rock drilling equipment market in China and gradually replacing imported ones. Over 15 years, Sunward has developed a complete series of rock drilling equipment applicable to a wide range of rock formation conditions, sought out a self-innovation path of rock drilling equipment, and established a complete system of research and development and manufacturing.

Sunward intelligent series of rock drilling equipment contain the integrated down-the-hole rigs, full hydraulic open-pit drilling rigs, multi-function cutting rig, screw-type ground pile drilling rig, underground jumbo and other pieces of equipment. They are widely applied to cement and metallurgical industries, mining activities of coal mine, quarry and other places, and construction of such projects as railway and highway, water conservancy and hydropower, national defense, buildings, and new energy resources.

SWDR系列切削钻机

SWDR Series Rotary Cutting Drill Rig



SWDR138切削钻机基于成熟挖掘机平台二次开发，配置高效推进、回转、除尘装置、螺杆空压机、实现高速切削或冲击凿岩；配置挖掘装置，即是一台完整挖掘机，实现一机三用。SWDR138切削钻机应用于工程建设、煤矿等钻爆施工。全面取代分体机作业，工作效率成倍提高，运行成本大副降低。

Based on the secondary development of the established excavator platform, SWDR138 cutting rig is equipped with effective and efficient propelling, rotation, dedusting devices, and screw-type air compressor, achieving fast cutting or impacting of the rock; when provided with an excavation device, it would be a complete excavator, and thus the same machine can be used for three purposes. SWDR138 cutting rigs are used for drilling and blasting in engineering and mining. It fully replaces a combination of separate machines, which increases working efficiency by times and greatly reduces the operation cost.

产品优势 Product advantages

- ◆ 高速、大扭矩回转切削；高风压、大风量螺杆空压机冲击凿岩，钻进动力强劲。
- ◆ 自动接卸杆，实现深孔钻进，大大提高作业效率。
- ◆ 两级干式除尘系统、独有的防顶冲机构，有效降低粉尘，维持了清洁的作业环境。
- ◆ 凿岩回转推进液压自适应岩层变化，有效提高钻进效率，防止卡钻。
- ◆ Fast and large-torque rotary cutting; screw-type air compressors with high pressure and large air flow provide strong power during the drilling of rocks.
- ◆ Automated extension and removal of drill rods allows for the drilling of deep holes and greatly improves the working efficiency.
- ◆ The two-stage dry dedusting system and the unique anti-thrusting mechanism effectively reduce dust and maintain a clean working environment.
- ◆ The rotation and propelling are adaptive to the change of rock layers through the hydraulic pressure, which effectively improves the drilling efficiency, and prevents the rig from jamming.



技术参数 Technical Data

主要参数 MAIN DATA	单位 UNIT	SWDR138
作业参数(Operation parameter)		
钻孔范围(Drilling range)	mm	105-152
钻杆直径(Drill rod diameter)	mm	83/89
钻杆长度 (Drill rod length)	m	5
最大孔深 (Hole depth,max)	m	30
上车回转(Upper carriage rotation)	°	360
空压机(Air compressor)		
型号(Model)		DLQ550RH
工作压力(Working pressure)	MPa	1.7
排量(Displacement)	m ³ /min	15.5
功率(Power)	kW/rpm	179/1800
发动机(Engine)		
型号(Model)		QSB7-C187
功率 (Power)	kW/rpm	140/2050
燃油箱 (Fuel tank capacity)	L	500
推进(Feed)		
推进梁总长 (Feed beam length)	mm	8200
推进行程(Feed Stroke)	mm	4500
推进最大速率(Feed rate, max)	m/s	0.8
最大推进力 (Feed force, max)	kN	40
最大提升力 (Lifting force ,max)	kN	50
动臂偏摆(Boom deflection)	°	/
行走能力(Travel capability)		
行走速度(Travel speed)	km/h	3.45/5.6
最大牵引力(Traction force, max)	kN	160
爬坡能力(Gradeability)	°	25
离地间隙(Ground clearance)	mm	480
接地比压(Ground pressure)	bar	0.5
履带架摆角(Track tilt angle)	°	/
回转动力头 (Rotary head)		
型号 (Model)		DLT40R
回转速度 (Rotary speed)	rpm	200
回转扭矩(Rotary torque)	Nm	4000
外型尺寸(Dimension)		
重量(Gross weight)	T	24
长×宽×高(工作) (L×W×H) (Working)	m	11×3.4×9.0
长×宽×高(运输) (L×W×H) (Transportation)	m	14.8×3.4×3.5



售后服务 After-Service

为客户创造价值 让客户无后顾之忧

Create value for customers and eliminate future troubles for customers



在全国各地设有配件仓库，形成总部仓库、区域中心仓库、省级仓库和地级市仓库四位一体的配件供应保障体系，储存了价值上亿元、2万余种零配件。800名一线服务工程师，200个服务网点，300台服务车，上百家服务顾问单位，保证高效、快捷的售后服务。

The spare parts warehouses are established around the world to form an integrated spare parts supply assurance system composed of headquarter warehouse, regional central warehouse, province-level warehouse, and prefecture-level warehouse and store more than 20,000 types of spare parts worthy of RMB >100 million. 800 frontline service engineers, 200 service stations, 300 service vehicles, and >100 service consultant organizations are available for the customers' services.

服务承诺：一个电话 全程无忧

Service commitment: Whole-process trouble-free with merely one call.

24小时热线 24-Hour Hotline

您有任何需要，只需拨打24小时售后服务热线:400-887-8230
Please call the 24-hour after-service hotline at 400-887-8230 should you have any need.

一刻钟回复 15min Response

一刻钟内售后服务工程师将主动和您取得联系，向您了解设备情况和服务需求，通过电话远程指导处理问题。

Within 15min, our after-service engineer will proactively contact you to understand the equipment situation and your service needs and remotely guide the problem-solving via telephone.

1小时出发 1-Hour Departure

若电话指导无法处理好故障，服务工程师在1小时内携带维修工具出发前往设备所在现场精心现场维修服务。

If the malfunction can't be solved via telephone guidance, the service engineer will depart with repair tools within one hour for the location of the equipment to provide elaborate field repair services.

2小时到达 2-Hour Arrival

办事处所在市内2小时内，省内12小时，省外48小时内到达现场。

Our service engineer will arrive at the site within 2 hours for the cities with established representative office, within 12 hours for the regions within the province, and within 48 hours for the regions outside of the province.

重大情况处理 Handling of major events

重大和特殊情况，服务体系将启动快速反应机制、专家支持机制和配件绿色通道。

In event of any major or special event, the service system will launch the rapid response mechanism, expert support mechanism, and green spare parts channel.

电话回访 Call-back visit

现场服务完工后，公司总部呼叫中心对每次服务进行电话回访，跟踪服务的质量和完成情况，听取客户的意见和建议并反馈到各职能部门进行落实和改善，以便为客户提供更优质的服务。

At completion of the field services, our headquarter call center will perform call-back visit for every service to follow up the quality and fulfillment of the service, listen to the customers' opinions and suggestions, and feed back to various functional departments for implementation and improvement, in order to provide the customers with excellent services.