

PROFESSIONAL UNDERGROUND ENGINEERING CONSTRUCTION
EQUIPMENT MANUFACTURER

SUNWARD

Multi-functional Rotary Drilling Rig

SWDM
40 • 60 • 80 • 120



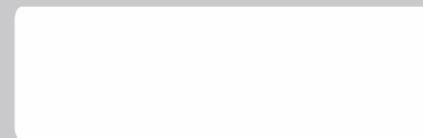
SUNWARD

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SWDM EN 2021-03

Professional underground engineering construction equipment manufacturer

In the field of underground engineering equipment, Sunward adheres to the concept of "pilot innovation" and starts with original products: hydraulic static pile driver. After 20 years of accumulation and development, Sunward has formed a product cluster of underground engineering equipment covering "building foundation equipment" and "underground space equipment". It has innovated and developed more than 20 series products of nearly 100 models. Hunan Hua'an Foundation Engineering Co., Ltd. with the first-class qualification for professional contracting of substructure and foundation engineering under Sunward Equipment Group provides complete solutions for underground engineering construction. And the overall technical level and product series perfection of Sunward rank the top in the world.



Development History of Rotary Drilling Rig

- 1992 Joined the pile industry
- 2003 The first rotary drilling rig SWDM20 has been successfully launched
- 2005 SWDM series rotary spectrum extension
- 2007 Built the first pile in Harbin-Dalian High-speed Railway
Launched a series of small rotary drilling rigs to enter the European market in batches
- 2008 Many breakthroughs have been made in technical field of construction method and accessory. It is realized to use multiple construction methods on one drilling rig.
Second generation full rotary series upgradation
- 2010 Launch rotary drilling rig SWDM36 and SWDM42
- 2012 High performance rotary drilling rig won the first prize of Scientific and Technological Progress Award in Hunan Province
- 2014 Large diameter deep hole reverse circulation drilling rig and large diameter DTH hammer drilling rig have been successfully launched
- 2015 World's first SWRC170 self-propelled fully rotary casing drilling rig has been successfully launched
- 2016 Super large rotary drilling rig SWDM550 has been successfully launched
- 2017 World's largest walking rotary drilling rig SWDM600W has been successfully launched
- 2019 The application of information technology and intelligent technology has upgraded the full series of the third generation rotary drilling rig
SWDM360H won the Annual Product Golden Awards of China Construction Machinery
SWDM300H won the Star Product Award of CMIIC
- 2020 SWDM600 has been successfully launched
SWDM300H won the Gold Award for Market Performance of China Construction Machinery Annual Product



Compact, Flexible and Highly Maneuverable

Compact machine body ensures a satisfactory passage capacity and can accommodate pile pore construction in narrow space. It is a truly buster at the construction site.



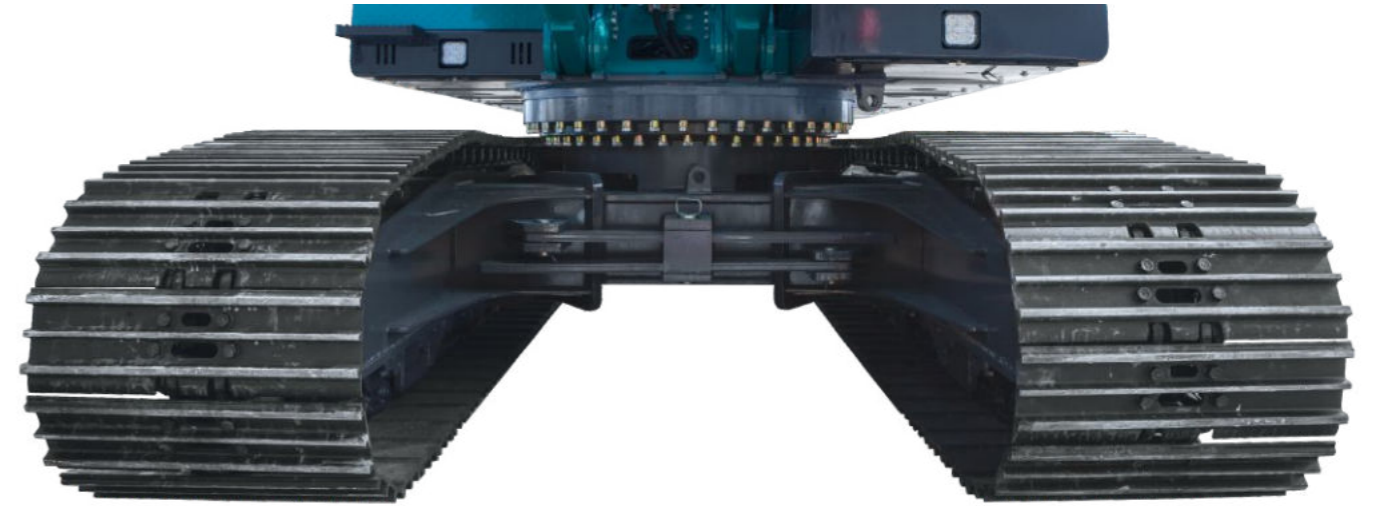
Convenient Transportation, Cost Reduction and Efficiency Increase

The complete drilling rig are transported with drill pipe, which is convenient and quick to transfer.

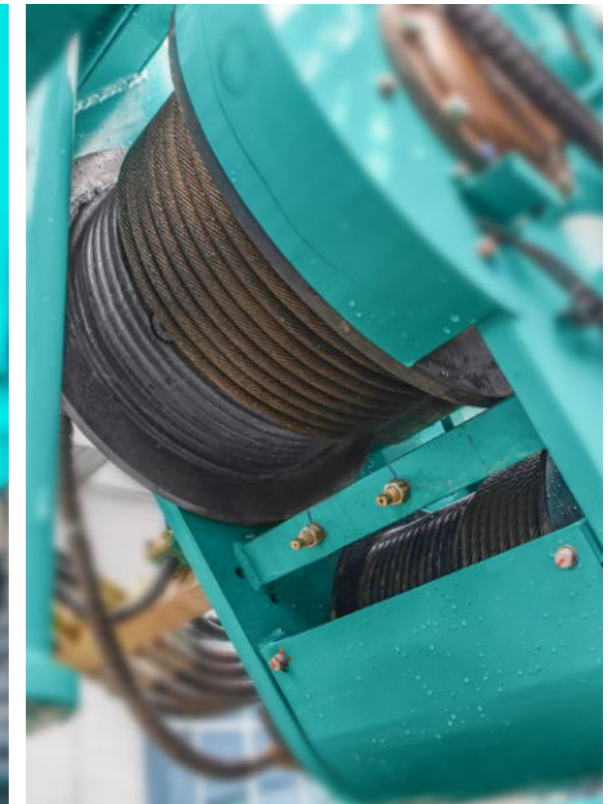
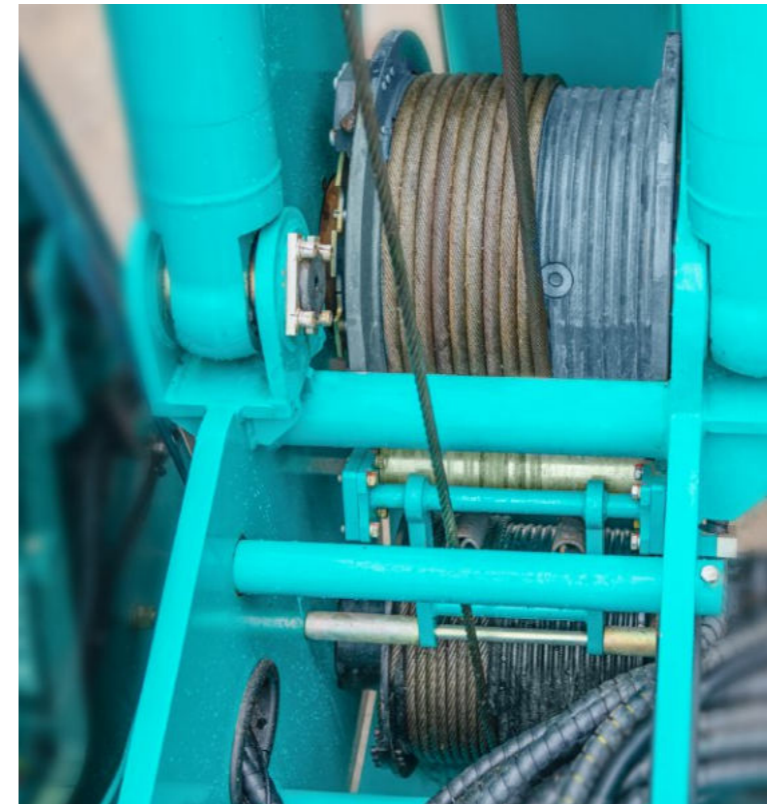


Stable and Reliable

The self-developed special telescopic chassis adapted to the actual working load of rotary drilling is adopted, so that the complete machine has higher stability



SWDM60 main and auxiliary winches are installed on the platform, which greatly reduces the tipping torque of the operation device and the revolving inertia of the upper part of the platform and improves the stability of the complete machine.



High Efficiency and Energy Saving

The efficient and reliable engine is equipped with efficiency hydraulic transmission system, and this guarantees the strong power of the machine. The advance intelligent electronic control system can give full play to the efficiency of the machine. Meanwhile, the reasonable local structural design noticeably reduces the wearable and consumable.



The torque test bench and tension test bench that independently developed by the Company can accurately and conveniently detect relevant data which fill the gap in the domestic technical field of them.

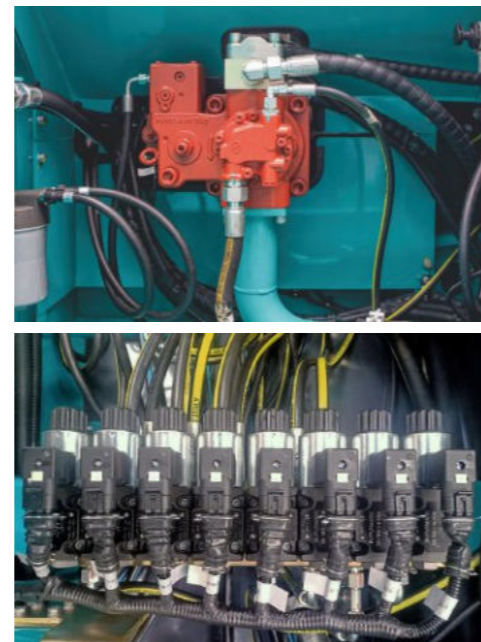


Driving head torque test bench



Hoisting tension test bench

Hydraulic system configuration is high, pipeline loss is small, and comprehensive transmission efficiency is high.



Intelligent Control and Easy Driving



Remote control of the operating system allows a wider field of vision and keeps you outside the "machine" to ensure safety.



- ◆ Fault self-diagnosis alarm, immediate solutions, effective response to emergencies.
- ◆ The control parameters are displayed in real time, the construction data can be exported by USB flash disk, and the man-machine integration is under control.
- ◆ Special electromagnetic handle, one-button locking, cruise operation, getting rid of heavy physical labor

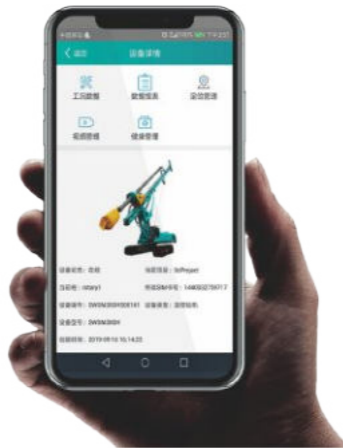


Sunward Cloud



System cloud platform

Mobile phone APP and WEB dual system are online, data are transmitted synchronously, and construction status is controlled at any time. One device in hand enables highly efficient control of multiple equipment.



■ Comprehensive Technical Parameters

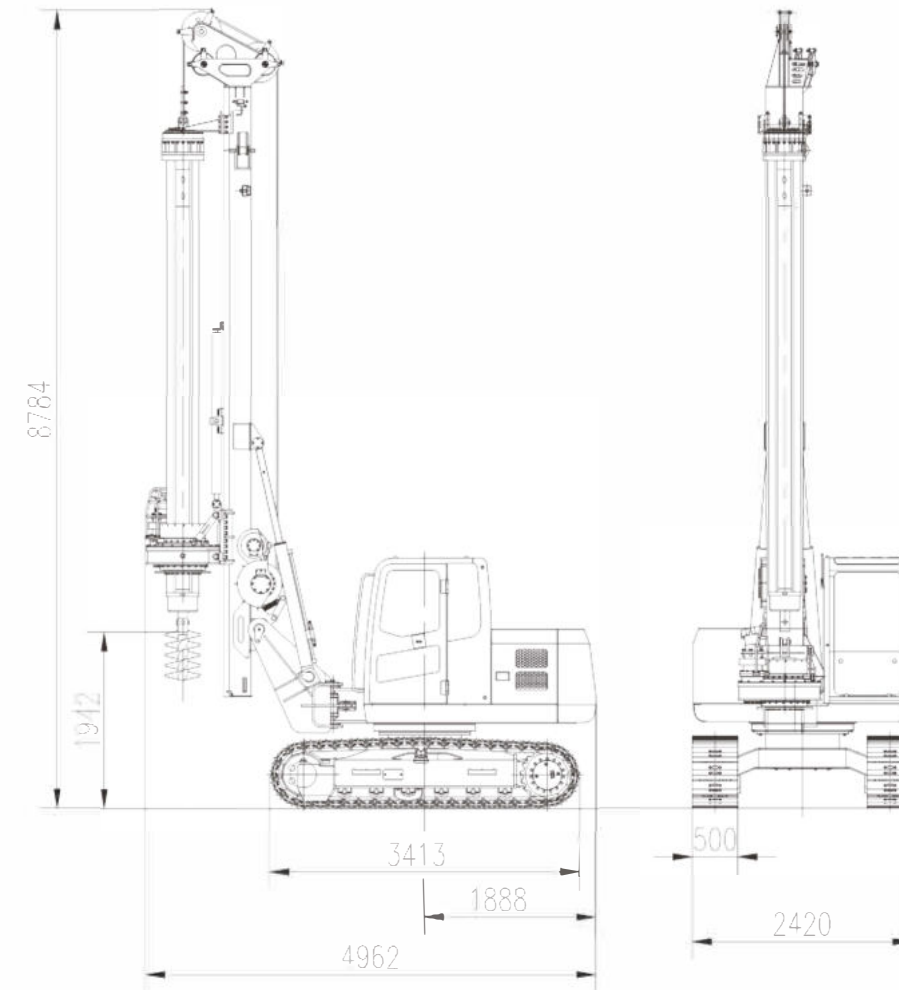
Parameters		Model	SWDM40	SWDM60	SWDM80	SWDM120
Drill hole	Max. drilling diameter	mm	900	1000	1000	1300
	Max. drilling depth	m	23	20	27	35/28
Engine	Brand		Cummins	Cummins	Cummins	Cummins
	Model		1104-44T	QSF3.8-C125	QSF3.8-C125	QSB7-C166
	Power	kW/@rpm	74.5@2400	93@2200	93@2200	124@2050
Rotary power head	Max.torque	kN.m	42	60	80	120
	Rotation speed	rpm	6~40	8~35	8~42	8~40
	High-speed throwing soil(optional)	rpm	/	70	70	70
Pressurization system	Max. applied pressure	kN	60	100	100	100
	Max.lifting force	kN	70	120	130	130
	Max.stroke	mm	1500	3000	3000	3000
Main winch	Max.lifting force	kN	60	80	80	130
	Max.ropespeed	m/min	66	72	72	65
Aux Winch	Max.lifting force	kN	15	30	30	50
	Max.ropespeed	m/min	40	50	50	50
Drilling mast	Left and Right tilt	°	±3	±3	±3	±4
	Forward tilt	°	5	5	5	5
Chassis	Crawler width	mm	500	600	600	600
	Crawler extension width	mm	2420	2600	2600	2990
	Chassis length	mm	3410	3765	3765	4450
Complete machine	Working height	mm	8785	11140	12640	16280
	Working Weight	t	18	21	23	32

■ Kelly bar parameters

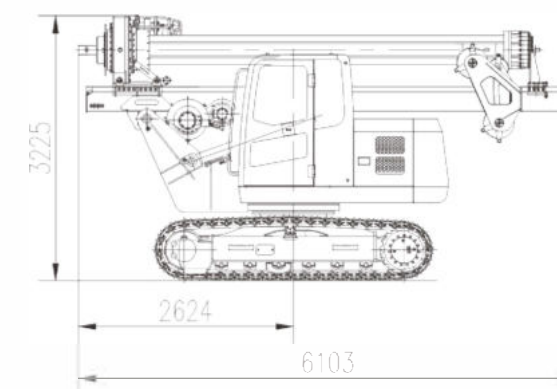
Model	Friction Kelly Bar	Hole depth (m)	Drill rod weight (kg)	Configuration	Model	Interlocking Kelly Bar	Hole depth (m)	Drill rod weight (kg)	Configuration
SWDM40	MZ325-5X5m	23	2850	●	SWDM40	JS325-4X5m	18	2500	○
SWDM60	MZ273-4X6m	20	2380	●	SWDM60	JS273-3X6m	15	2200	○
SWDM80	MZ273-4X7.5m	27	2850	●	SWDM80	JS273-3X7.5m	20	2500	○
	MZ273-4X6m	21	2380	●		JS273-3X6m	15	2200	○
SWDM120	MZ355-5X8m	35	4600	○	SWDM120	JS355-4X8m	28	5000	○

● Standard ○ Optional

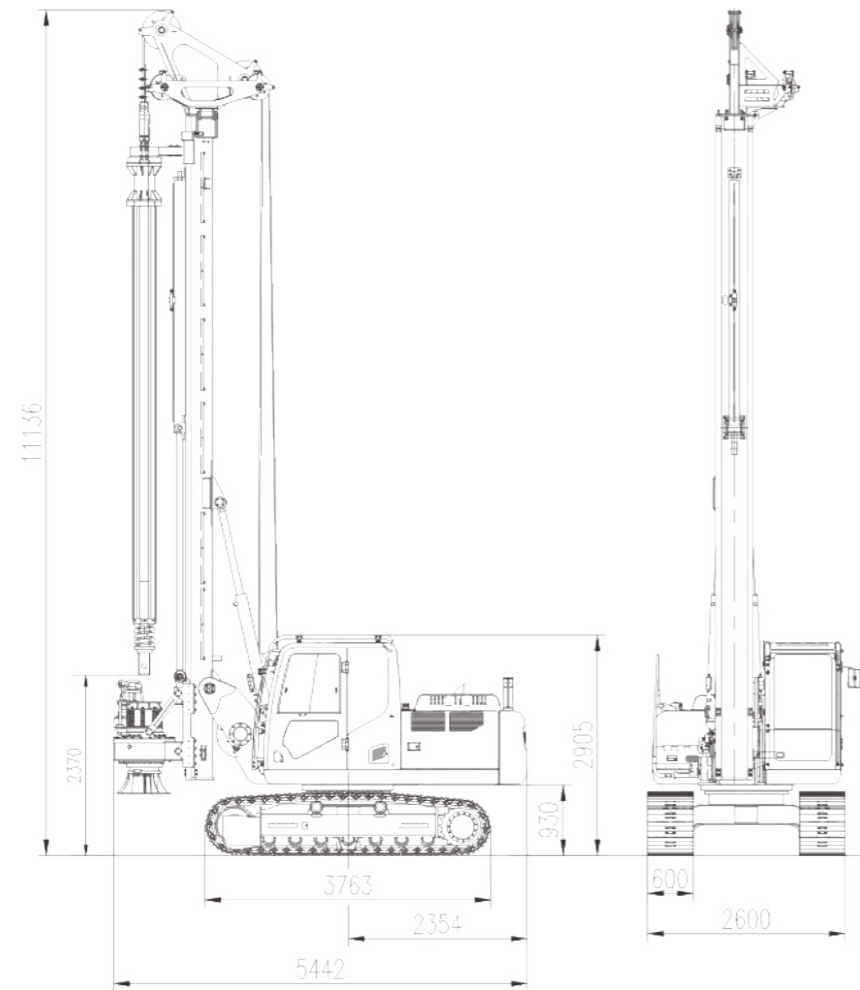
■ Operation status SWDM40 (unit:mm)



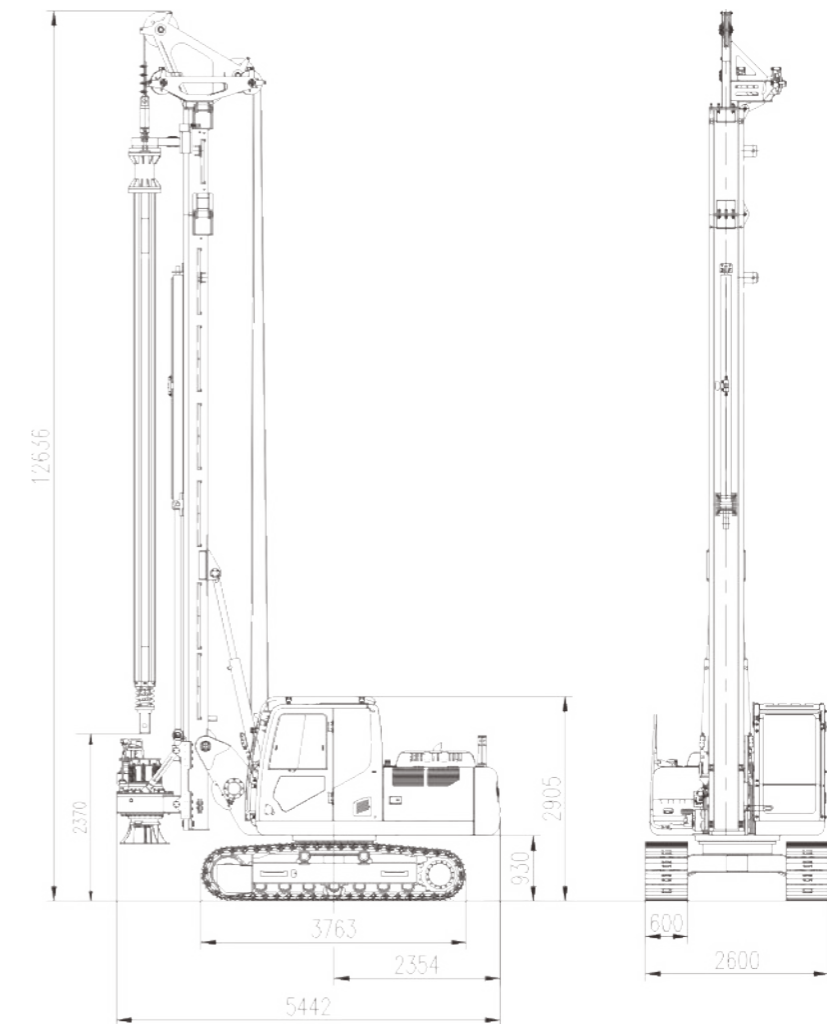
■ Transportation status SWDM40 (unit:mm)



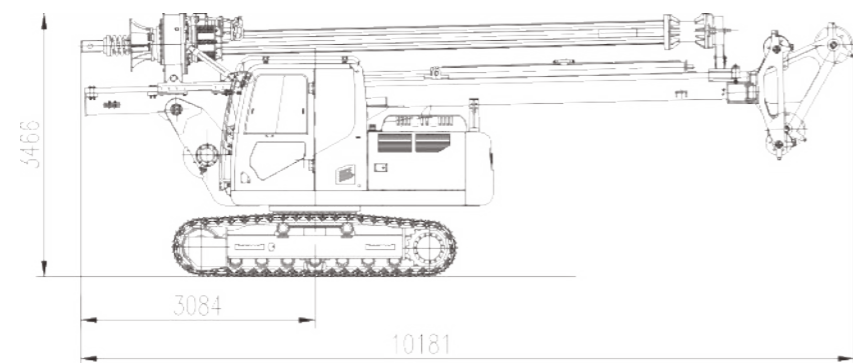
■ Operation status SWDM60 (unit:mm)



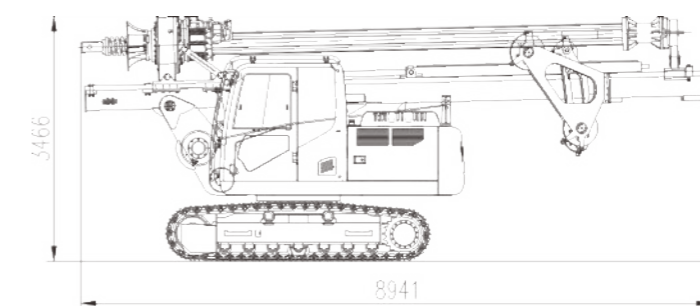
■ Operation status SWDM80 (unit:mm)



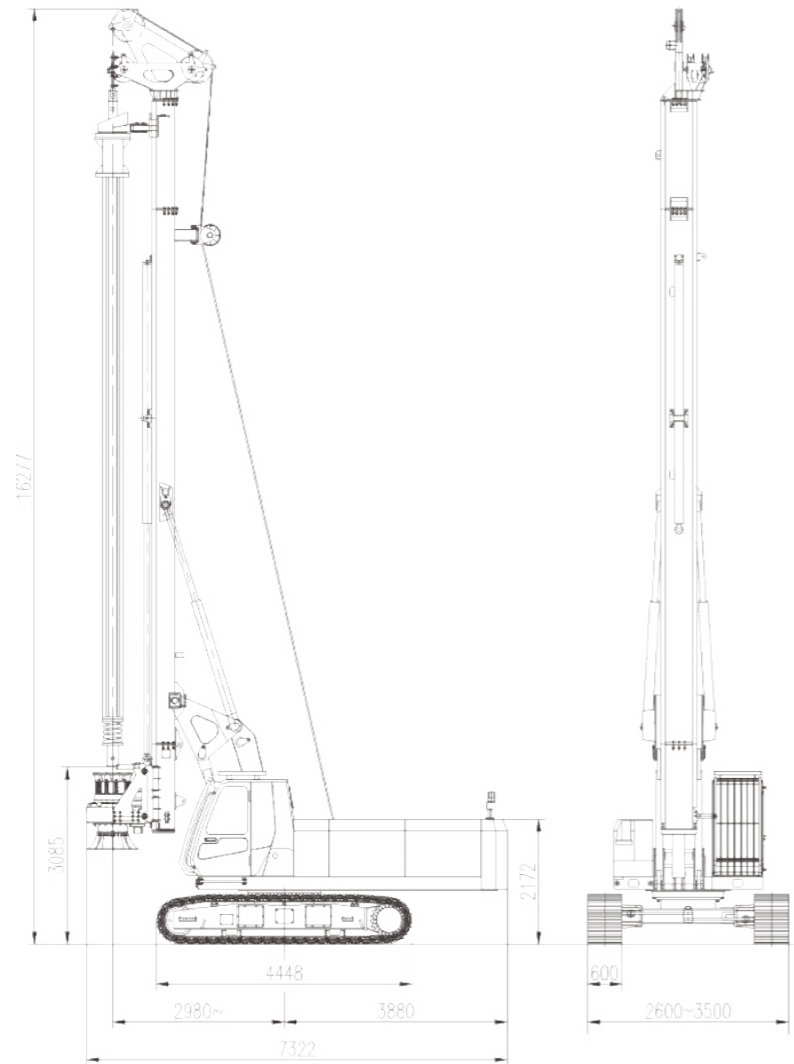
■ Transportation status SWDM60 (unit:mm)



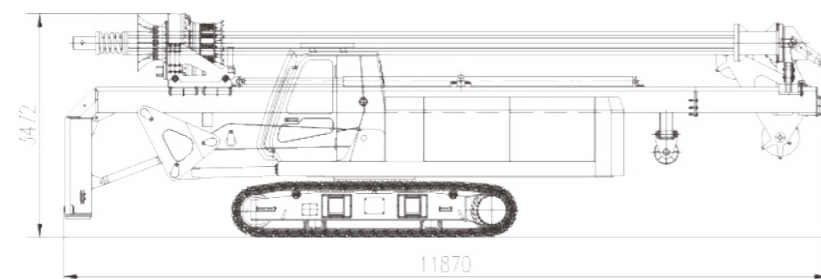
■ Transportation status SWDM80 (unit:mm)



■ Operation status SWDM120 (unit:mm)



■ Transportation status SWDM120 (unit:mm)

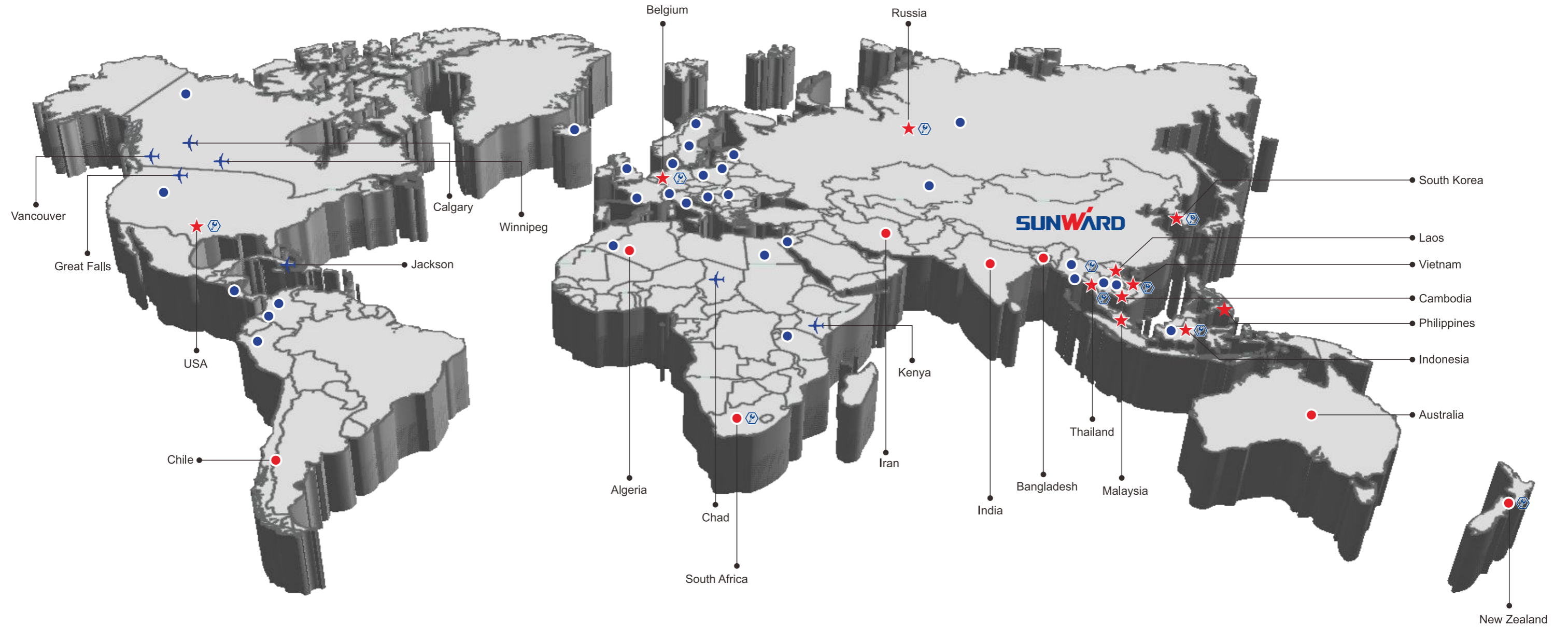


Construction Application

Sunward Rotary Drilling Rig has unique advantages in complete machine stability, control technology, steel wire rope consumption and other performance indicators, and its comprehensive performance has reached the international advanced level. Sunward rotary drilling rig is not afraid of medium (slight) weathering, hard sand layer, large gravel layer and other complicated geological conditions, and has successively participated in the construction of Panzhihua Steel Vanadium and Titanium Base, Hong Kong-Zhuhai-Macao Bridge, Harbin-Dalian Passenger Dedicated Line, Bird's Nest Stadium, Shanghai-Nanjing Railway, Shanghai-Kunming Railway, Lasa-Rikaze Railway, Lanzhou-Urumqi High-speed Railway and other major projects. At the same time, Sunward rotary drilling rigs have also been exported to Southeast Asia, Europe, America, Africa and other countries and regions in large quantities to participate in local key projects.



Distribution Network



- ★ Sunward subsidiaries
- Sunward offices
- Sunward dealers
- ⬡ Sunward spare parts centers
- ✈ AVMAX service outlets

