

U-SERIES Rotary Drilling Rig ZR420U

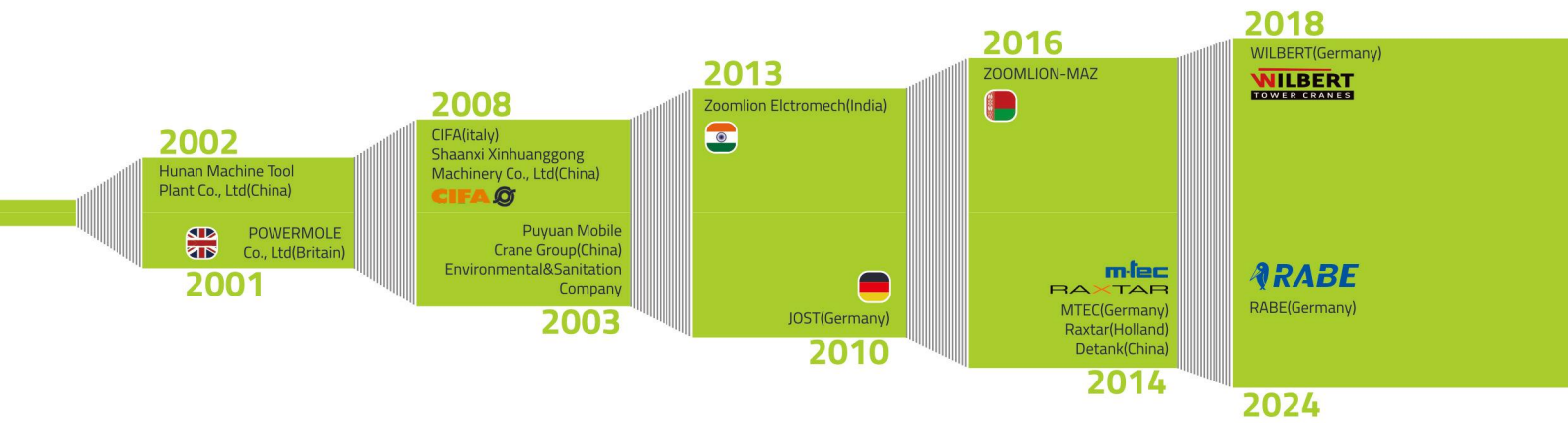


V2025.05

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ZOOMLION GLOBALIZATION



ZOOMLION AT A GLANCE

Since 1956	Founded in 1992	Stock Exchange SZ/HK	Sales Value \$4.18billion
Patents 10000+	Standard ISO TC96 Maker	Industrial Parks 22	Employees 30000+



产品亮点 HIGHLIGHTS

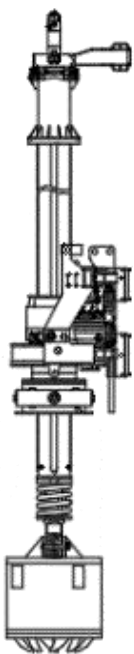
在众多可用的配件包中，我们提供：

Among the various accessory kits available, we offer:

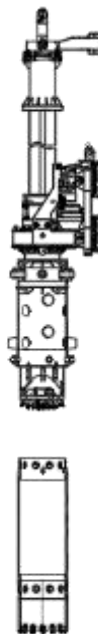
- **钻杆**：不同长度、不同直径的两种钻杆：摩阻杆、机锁杆；
- **Kelly bar**: Two types of drill rods with different lengths and diameters: friction rods and interlocking rods.
- **钻具**：不同直径的各种类型的多种钻具；
- **Drilling Tools**: Various types of drilling tools with different diameters.
- **套管**：动力头驱动器、套管、管靴等下护筒功能的所有部件；
- **Casings**: All components for casing installation, including rotary drives, casings, and casing shoes.
- **长螺旋**：直径从500mm-1,200mm的各种长度的长螺旋钻杆和钻具，及合适的内导向架和清土器；
- **Continuous Flight Auger**: Continuous Flight Auger rods and tools with diameters ranging from 500 mm to 1,200 mm, with appropriate inner guide frames and soil cleaners.

多功能工法 ALL-IN-ONE

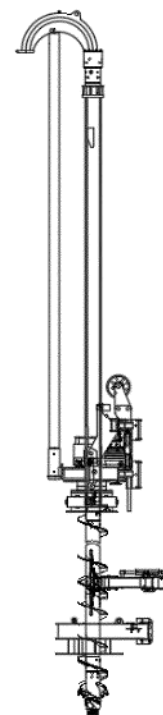
1.Kelly drilling
凯式钻进



2.Cased Kelly drilling
护筒跟进



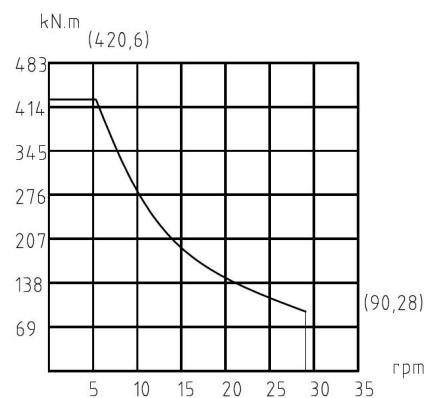
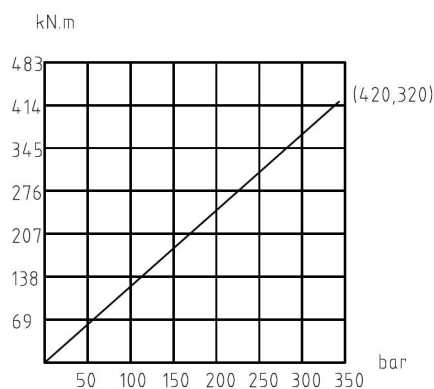
3.CFA drilling
长螺旋钻进



ZR420UC 技术参数 Technical specifications

Rotary Drive		动力头
Torque(nominal) at 320 bar	扭矩 (320 bar)	420 kN · m
Speed of rotation	转速	6–28rpm
Crowd system		加压系统
Crowd force push/pull(effective)	加压力/起拔力	340 / 380 kN
Speed (down/up)	速度 (下降/升)	3.6 m/min
Fast speed (down/up)	快速模式 (下降/上升)	21.6 m/min
Main winch		主卷扬
Line pull	单绳拉力	415 kN
Rope diameter	钢丝绳直径	40 mm
Line speed (max.)	最大提升速度	75 m/min
Auxiliary winch		副卷扬
Line pull	单绳拉力	90 kN
Rope diameter	钢丝绳直径	22 mm
Line speed (max.)	最大提升速度	70 m/min
Mast inclination		钻桅倾斜度
Backward/forward/lateral	向后/向前/左右	90 / 4 / 4 °

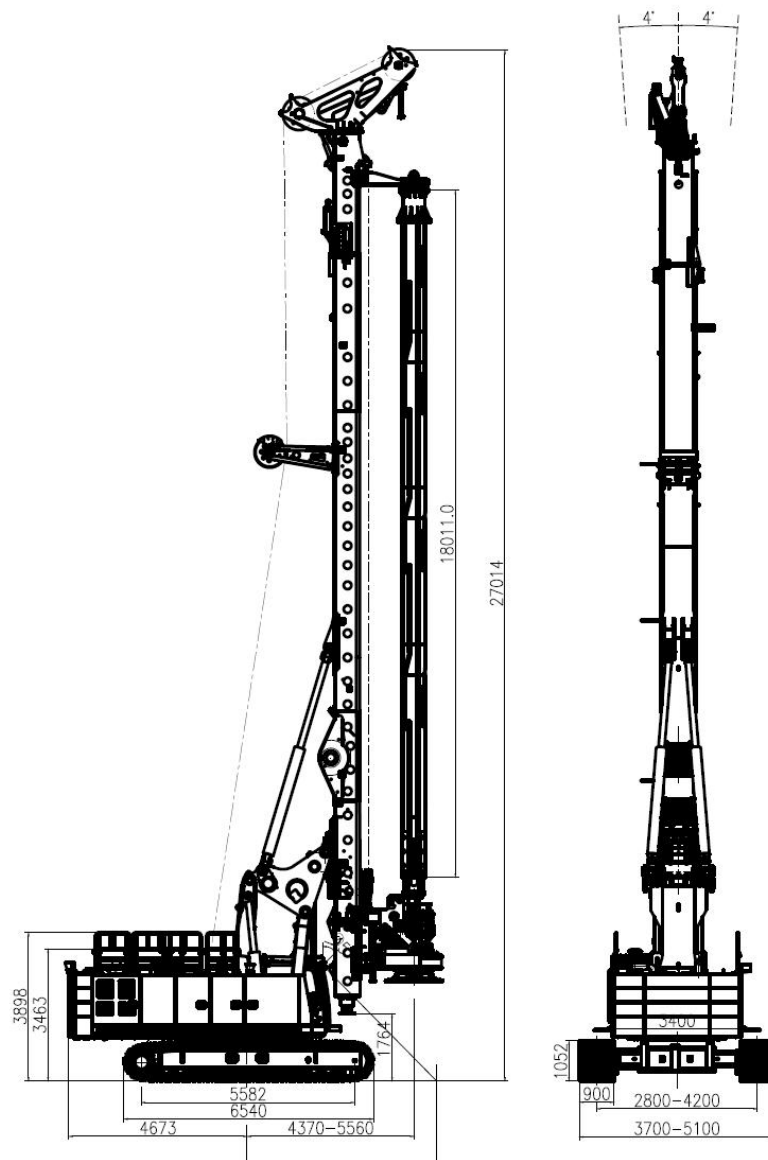
Rotary Drive–Torque Diagram



ZR420UC 技术参数 Technical specifications

Engine		发动机
Type	型号	QSX15
Rated output	额定功率	373kW/2000rpm
Exhaust Emission Standard	发动机废气排放标准	U.S.EPA Tier3、EU Stage III
Exhaust tank capacity	柴油箱容量	705 L
Sound pressure level in cabin EN 16228	驾驶室内噪音	≤ 85 dB(A)
Sound power level 2000/14/EC, EN 16228	全功率下噪音	≤ 113 dB(A)
Hydraulic system		液压系统
Hydraulic pressure	液压系统压力	320 bar
Flow rates	流量	900 L/min
Hydraulic oil tank capacity	液压油箱容量	1154 L
Undercarrige		下车（履带可伸缩式结构）
Track width(retracted/extended)	履带宽度（收缩/伸展）	2800 / 4200 mm
Overall width of crawlers (retracted/extended)	总宽度（收缩/伸展）	3700 / 5100 mm
Overall length of crawlers	履带总长度	6540 mm
Rotary range of motion	回转半径	4673 mm
Traction force	牵引力	800 kN

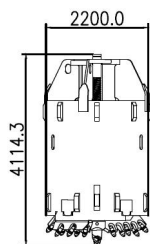
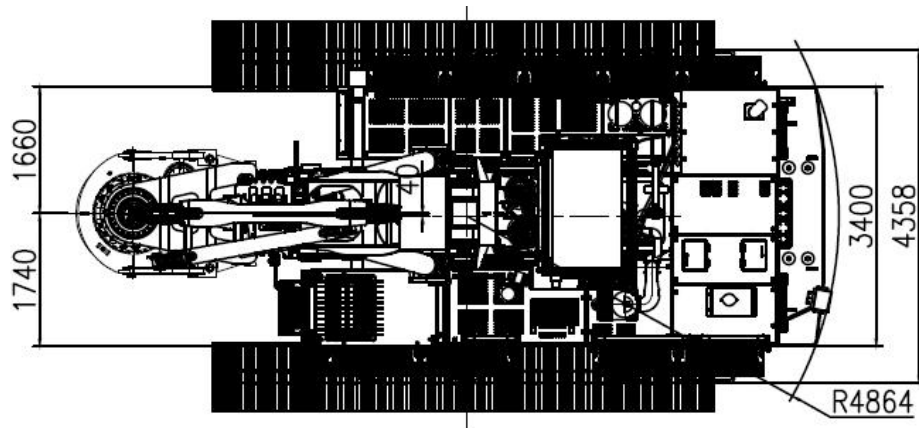
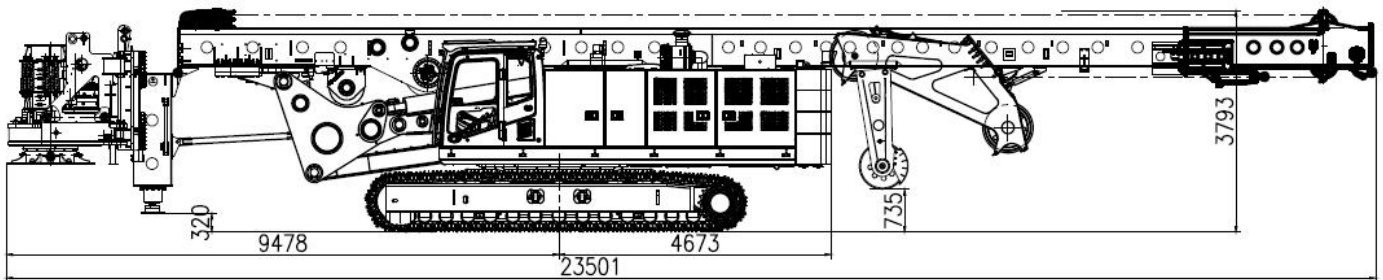
ZR420UC 凯氏钻进 Kelly Drilling Method



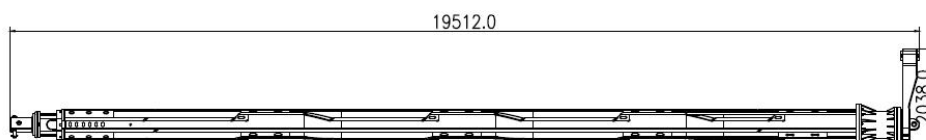
Max. drilling diameter	最大钻孔直径	2500/2800 mm
Max. drilling depth	最大钻孔深度(机锁/摩阻)	110 / 71 m
Crowd force / Line pull	加压力/起拔力	340 / 380 kN
Stroke	加压行程	13,000 mm

	Kelly bar	Transport length A	Kelly bar weight	Bucket above ground height H	Depth T
4-part interlock bar	Φ580-4X20	13,495 mm	21800 kg	4 m	73 m
	Φ580-4X18	13,495 mm	19800 kg	4 m	65 m
	Φ580-4X16	14,995 mm	17900 kg	2.5 m	57 m
5-part friction bar	Φ580-6X20	13,495 mm	23700 kg	4 m	110 m
	Φ580-6X20	13,495 mm	22150 kg	4 m	98 m
	Φ580-6X16	14,995 mm	20600 kg	2.5 m	86 m

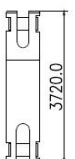
不带杆运输状态	Optional Transportation size	
运输重量	Transport weight	115 t
运输长度	Transport length	23501 mm
运输宽度	Transport width	3,170 mm
运输高度	Transport height	5100 mm



φ3000双底双开门截齿捞
 砂斗9000kg
 φ3000 Double-Bottom,
 Double-Door Cutterhead
 Sand Bucket

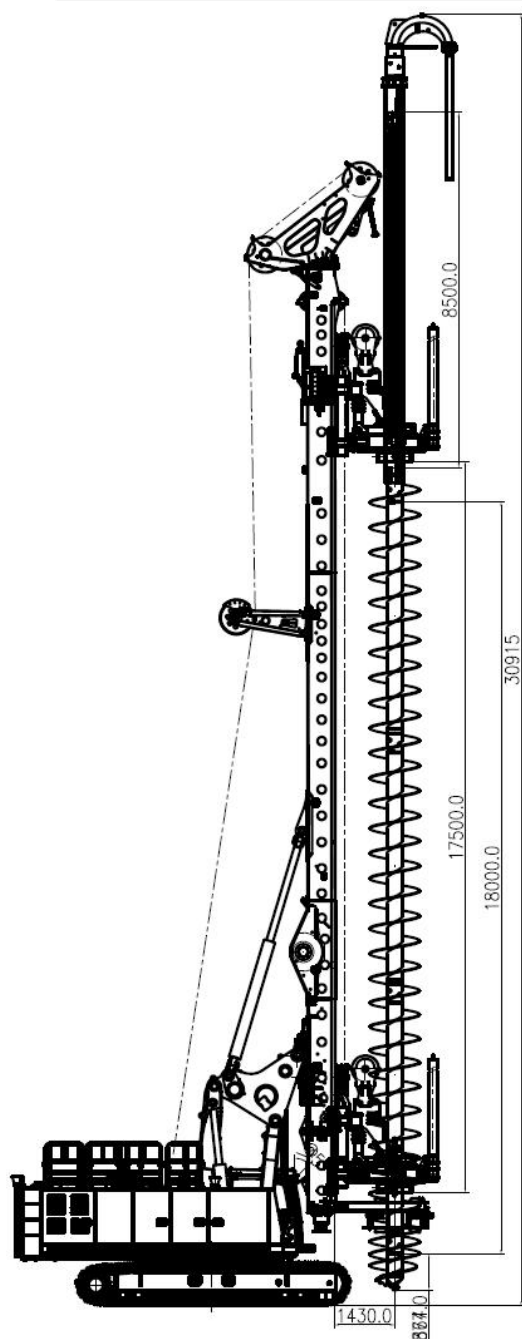


580四节18m机锁
 杆19800kg
 580 Four-Section
 18m Interlocking
 Rod



提引器
 156kg
 Lifting
 Device

ZR420UC 长螺旋工法 CFA Drilling Method

CFA工法参数
CFA Method Parameters

钻孔	Pile	
最大钻孔直径	Max. drilling diameter	1200 mm
最大钻孔深度	Max. drilling depth	27 m
动力头	Rotary drive	
额定输出扭矩	Rated output torque	420 kN.m @320 bar
转速	Drilling speed	6-28 rpm
加压系统	Crowd system	
加压力	Crowd force	340 kN
起拔力	Line pull	380 kN
行程	Stroke	17.5 m
CFA卷扬	CFA winch	
拉力	Extraction force	1210 kN
速度	Max.line speed	40 m/min
整机	Overall machine	
整机高度	Overall height	30915 mm
工作重量	Operating weight	123t

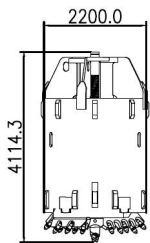
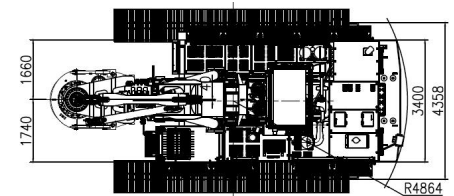
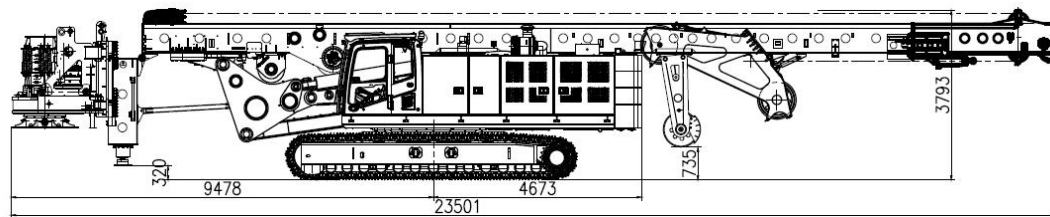
CFA options 长螺旋选项

Max length of kelly bar 主动钻杆长度	Auger 长螺旋钻头	Length of auger 长螺旋 钻杆长度	Diameter of auger 长螺旋 钻杆直径	Guide frame 导向架	Cleaner 刮土器	Grouting elbow 注浆弯头	Fast ener 紧固件
8.5m	Single-start & single-screw/ 单头单锥螺长螺旋钻头/ Double-start & single-screw 双头双螺长螺旋钻头	4m	Ø500	Ø500	CFA- GTQ	ZJWT- 420CFA	XZ
		4.5m	Ø600	Ø600			
		6m	Ø700	Ø700			
		8m	Ø800	Ø800			
			Ø900	Ø900			
			Ø1000	Ø1000			
			Ø1200	Ø1200			

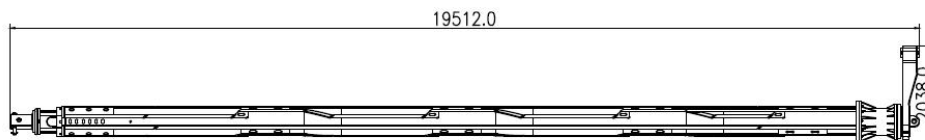
长螺旋功能运输状态

CFA Standard Transportation size

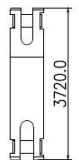
运输重量	Transport weight	115 t
运输长度	Transport length	23501 mm
运输宽度	Transport width	3,170 mm
运输高度	Transport height	5100 mm



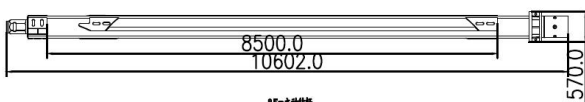
Φ3000双底双开门
截齿捞砂斗
90000kg
Φ3000 Double-
Bottom, Double-
Door Cutterhead



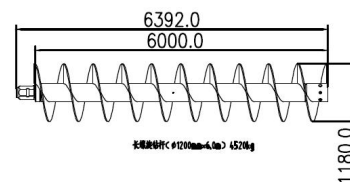
580四节18m机锁
杆19800kg
580 Four-Section
18m Interlocking
Rod



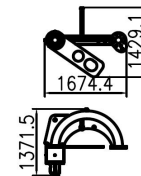
提引器
156kg
Lifting
Device



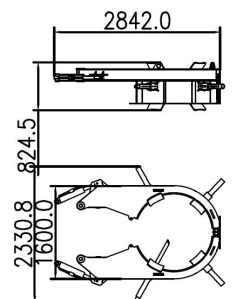
85mm主动钻杆
3810kg
主动钻杆
3810kg
Active Drill
Rod



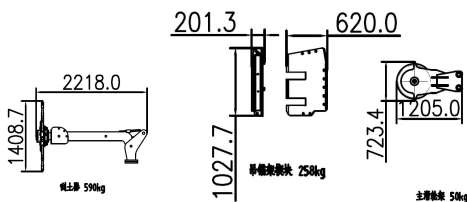
长螺旋钻杆
4520kg
CFA Drill Rod



注浆弯头 870kg



导向架 (1270) kg
Guide Frame
(1270)kg



刮土器590kg
吊锚架楔块258kg
主滑轮架50kg
Frame Wedge Block 258kg
Main Pulley Frame 50kg

长螺旋驱动套
100kg
CFA Drive Set
100kg

导向管20kg
Guide Tube
20kg

导向杆80kg
Guide Rod
80kg

注浆弯头870kg
Grouting Elbow
400kg

功能	Function	配置情况
动力头浮动功能	Rotary Drive Floating Function	●
动力头集成连接盘	Rotary Drive Integrated Connector Plate	●
入岩模式	Rock Mode	●
集中润滑	Centralized Lubrication	●
一键甩土	One-click Soil Dumping	●
一键扫孔	One-click Hole Sweeping	●
一键上下抖土	One-click Up and Down Soil Shaking	○
座椅加宽	Widened Seat	●
CFA功能	CFA Function	●
混凝土压力	Concrete Pressure	○
动力头高速甩土	Rotary Drive High-Speed Soil Dumping	○
动力头管路增加快换接头	Rotary Drive Piping with Quick-Change Joints	○
吊锚架摄像头	Boom Anchor Frame Camera	○
副卷扬摄像头	Auxiliary Winch Camera	○

● 标配 ○ 选配 △ 不适用

● Standard Equipment ○ Optional Equipment △ Not Applicable

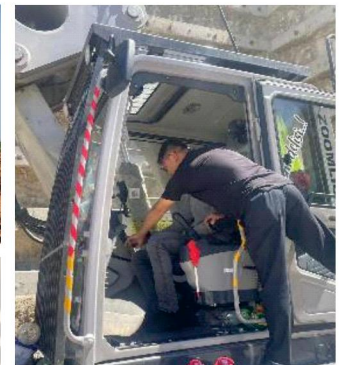
GLOBAL SERVICE CASE SET



当地配件库
Local Accessory
Warehouse
中国先进工法支持
Support for Advanced
Chinese Construction
Methods
免费员工培训
Free Staff Training
大机型保姆式服务
Comprehensive Service
for Large Models

我们能为您
We Offer Everything Best
for You
提供什么服务
Providing High Quality
Services

我们拥有丰富
We Are Experienced
全球施工经验
Global Construction
Practitioners



MORE THAN YOU CARE

就像我们对产品的处理一样，
Just as We Handle Our Products,
我们也要求我们的服务质量高,可靠性高，
We Also Require High Quality and Reliability in Our Services,
毕竟,维护对效率至关重要。
After All, Maintenance Is Crucial to Efficiency.

我们的服务承诺包括 Our Service Commitments Include

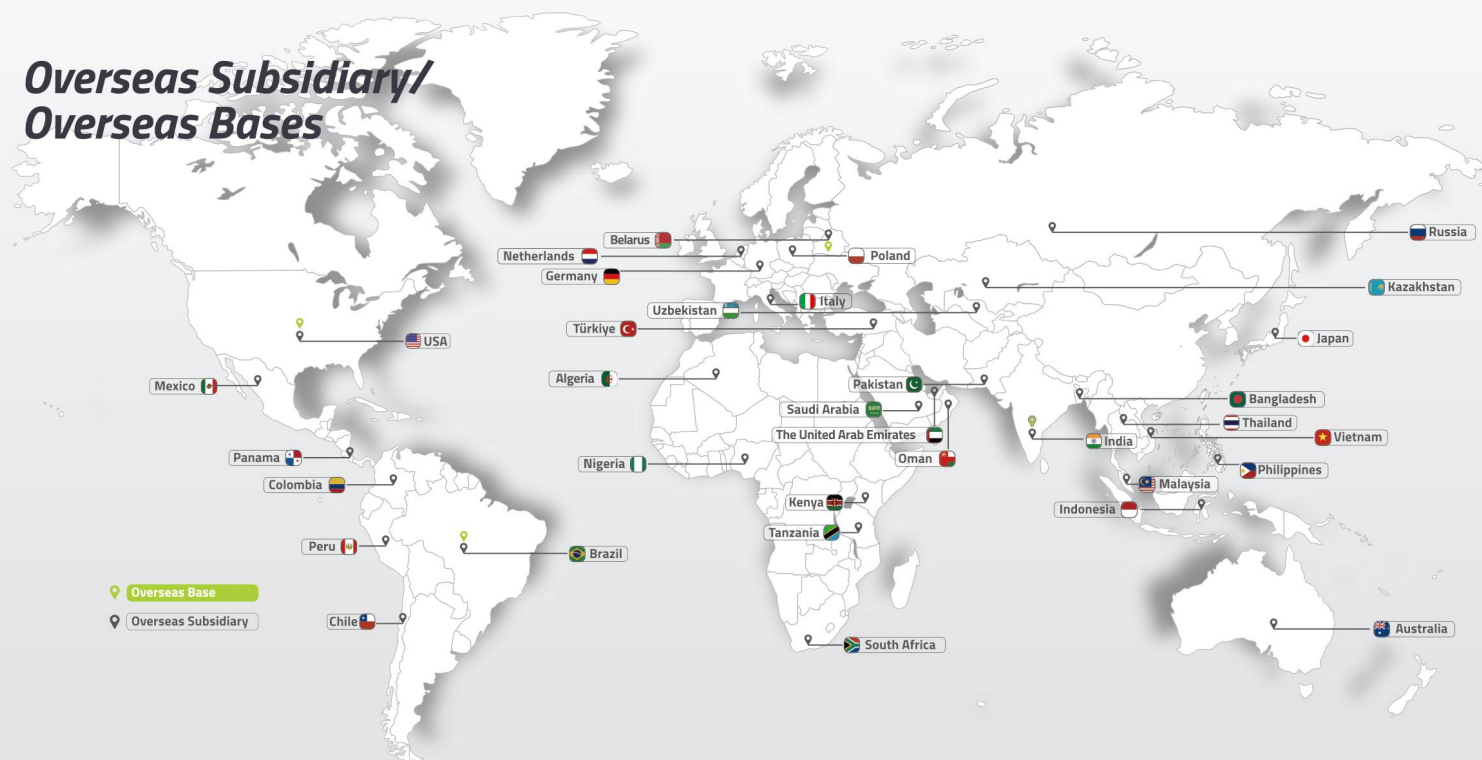
- 一个专业的团队
- A Professional Team
- 支持我们的客户和他们的产品
- Supporting Our Customers and Their Products
- 支持机器组装、调试、交付
- Supporting Machine Assembly, Commissioning, and Delivery
- 可进行机器的检查和操作员培训
- Machine Inspection and Operator Training
- 每2个月进行一次日常服务检查
- Routine Service Inspections Every 2 Months
- 每年进行全面服务检查
- Comprehensive Service Inspections Annually
- ZOOMLINK™ App服务支持
- “ZOOMLINK” App Service Support
- 通过我们位于本地区的仓库提供专用部件
- Providing Dedicated Parts Through Our Local Warehouses



灯塔工厂 Lighthouse Factory

- 具备先进的自动化、人机合作、人工智能和IoT技术，
- Equipped with Advanced Automation, Human-Machine Collaboration, Artificial Intelligence, and IoT Technologies,
- 这让我们可以交付客户一种可靠、高效的机器。
- This Allows Us to Deliver Reliable and Efficient Machines to Our Customers.

Overseas Subsidiary/ Overseas Bases



Five Pillar Business



Construction Machinery

ZOOMLION CIFA mtec WILBERT



Agriculture Industry

ZOOMLION RABE



Neo Material

ZOOMLION

• Zoomlion Neo Material Technology Co., Ltd. provides total dry mortar solutions to customers all over the world.



Zvalley

ZOOMLION

• Bring Internet of Things technology into full play for industry.



Financial Service

ZOOMLION CAPITAL FINANCIAL SERVICES

• Zoomlion Capital presence in Italy, USA, Russia, Australia, South Africa, etc.

ZOOMLION

ZOOMLION FOUNDATION DIVISION

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