

SR235M DRILLING RIG



SANYs SR235M Series multi-purpose I Rotary - CFA drill rig has been designed with the UK's challenging Geotechnical conditions at the forefront of our specification.

Offering powerful, efficient, versatile & superior build quality our SR235M enters the UK market offering contractors a new direction in which they procure piling equipment.

HIGH PERFORMANCE WITH LOW EMISSIONS

Multi-purpose

- Multi-purpose rig including 4 technologies: Rotary, LDP, CFA and a low headroom option
- Universal connection port design allows for quick conversion between different modes

Power and efficiency

- Powerful Stage V VOLVO TAD1181VE engine (265 Kw / 2000 rpm)
- World class fuel efficiency combined with a reliable Exhaust Aftertreatment System (EATS) gives high uptime as well as low cost of ownership
- Next generation electrically controlled positive flow hydraulic system with pressure loss lowered by 12%
- EP optimal control system distributes power in real time, which brings improved operating experience, quicker operation feedback and lower energy consumption
- Main winch system adopts confluence technology to improve operation speed and efficiency
- CFA can realise crowd drilling and improve adaptability under different operating conditions
- Single layer wire rope on winch drum prolongs service life

Environmentally friendly

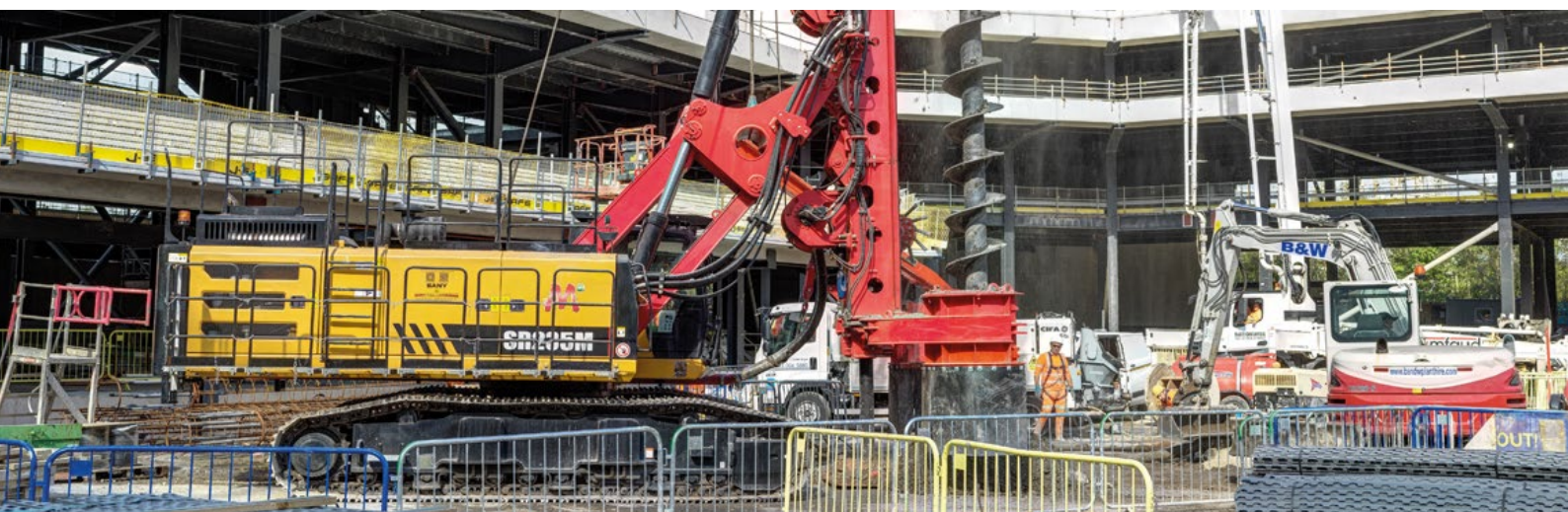
- Stage V compliant engine for low exhaust emissions
- Lower noise levels of 80db

Kelly Mode Rotary Drive

- Multi-gear control with maximum spin speed of 30 rpm
- Dual buffering system reduces vibration and avoids damage to device
- Lengthened key sleeve design ensures alignment ability and drilling verticality

CFA Rotary Drive

- The design of CFA rotary drive enables rapid conversion
- Gear box anti – sediment design ensures safety and high efficiency





SMART AND ERGONOMIC

- Next generation, spacious and modern operator's cab
- Premium air-suspension, ergonomic and anti-fatigue operators seat
- Easy to use 10.4" HD touch screen display that supports multiple languages including English, French, Russian, Spanish, Portuguese, Turkish and Chinese
- Excellent all-round visibility and LED work lights positioned on the front, rear and mast for safe working in low light conditions
- Efficient climate control system for improved operator comfort
- DAB radio with two fitted USB ports
- Ergonomic joysticks for responsive and easy control
- Lower noise levels of 80db for more comfortable working
- Smooth crawler speed allows the rig to be moved around site more safely and at a faster speed
- Integrated CFA construction management system
- Operating parameters and engine aftertreatment system can be displayed on the main screen for easy monitoring

A SAFER CHOICE

- Integrated platform with handrails and rear ladders for easier cab access and safe maintenance work
- LED work lights for greater visibility and safer working in low light conditions
- Fitted with rear view safety camera for greater visibility
- Reverse alarm to attract attention and prevent accidents
- Oversized safety mirrors fitted to the cab upright hand-rail for greater on-site safety
- Engine start/stop button for ease of operation and improved security
- Visual representation of locking device accurately shows the process of locking/unlocking, reduces Kelly bar wear, and avoids accidents

SERVICEABILITY

- Worldwide VOLVO-service partners for engine repairs and maintenance
- Easy access to all maintenance points
- Equipped with central lubrication system for reduced servicing and less downtime
- Integrated engine filters facilitate replacement saving time and money

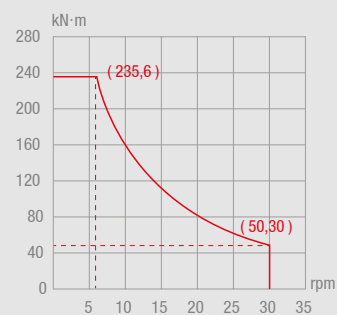


SR235M Key Specification

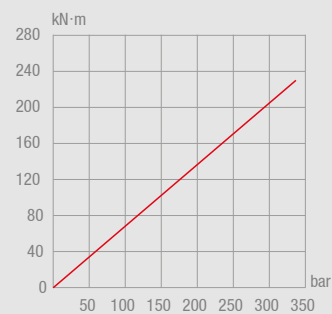
| | | |
|---|--------------------|--------------------|
| Pile | | |
| Max. drilling diameter | 2,000 mm | 79 in |
| Max. drilling depth | 73 / 58 m | 240 / 191 ft |
| Rotary drive | | |
| Rated output torque | 235 kN·m | 173,327 lbf ft |
| Rotation speed | 5~30 rpm | 5~30 rpm |
| Crowd system | | |
| Crowd force | 210 kN | 47,210 lbf |
| Line pull | 270 kN | 60,698 lbf |
| Stroke | 15,000 mm | 591 in |
| Main winch | | |
| Line pull | 235 kN | 52,830 lbf |
| Wire rope diameter | 32 mm | 1.26 in |
| Max. line speed | 70 m/min | 230 ft/min |
| Auxiliary winch | | |
| Line pull | 80 kN | 17,985 lbf |
| Wire rope diameter | 20 mm | 0.79 in |
| Max. line speed | 70 m/min | 230 ft/min |
| Mast inclination | | |
| Forward/backward | 5° / 90° | 5° / 90° |
| Lateral | ±3 ° | ±3 ° |
| Main Chassis | | |
| Engine model | TAD1181VE | TAD1181VE |
| Engine power ISO 3046-1 | 265 kW / 2,000 rpm | 355 HP / 2,000 rpm |
| Emission regulation | EEC 97 / 68 EC | EPA / CARB |
| | Stage V | Tier4 final |
| Sound pressure level in cabine (EN 16228, Annex B) | LPA 75 dB(A) | LPA 75 dB(A) |
| Sound power level (2000 / 14 / EC u. EN16228, AnnexB) | LWA 115 dB(A) | LWA 115 dB(A) |
| Fuel tank capacity | 580 L | 153 US gal |
| AD Blue tank capacity | 45 L | 12 US gal |
| Extension width | 4,500 mm | 177 in |
| Track shoe width | 800 mm | 32 in |
| Swing radius | 4,600 mm | 181 in |
| Overall machine | | |
| Overall height | 24,060 mm | 947 in |
| Operating weight | 86,000 kg | 189,600 lb |
| Transport width | 3,550 mm | 140 in |
| Transport height | 3,755 mm | 148 in |
| Transport length | 17,410 mm | 686 in |
| Kelly bar | | |
| Interlock bar Φ445×3×15 | 10,300 kg / 40 m | 22,707 lb / 131 ft |
| Interlock bar Φ445×4×15 ① | 11,300 kg / 54 m | 24,912 lb / 177 ft |
| Interlock bar Φ445×4×16 | 11,520 kg / 58 m | 25,397 lb / 190 ft |
| Friction bar Φ445×5×14 | 10,300 kg / 62 m | 24,708 lb / 203 ft |
| Friction bar Φ445×5×15 | 10,900 kg / 68 m | 24,030 lb / 223 ft |
| Friction bar Φ445×5×16 | 11,500 kg / 73 m | 25,353 lb / 239 ft |

Remarks: ① Standard

Rotary Torque Diagram



Torque-rotary speed diagram (Kelly mode)



Torque-pressure diagram (Kelly mode)

CFA Configurations

| | | |
|----------------------------------|-------------------|-----------------|
| ⇒ Kelly | ⇒ Auger | ⇒ Casing |
| ○ 6 m kelly | ○ 6 m- Φ400 | ○ Φ400 Casing |
| ● 9 m kelly | ○ 6 m- Φ500 | ● Φ600 Casing |
| ⇒ Drilling tools | ● 6 m- Φ600 | ○ Φ800 Casing |
| ○ Φ400 | ○ 6 m- Φ800 | ○ Φ1,000 Casing |
| ○ Φ500 | ○ 6 m- Φ1,000 | ⇒ Auger cleaner |
| ● Φ600 | ○ 7.2 m- Φ600 | ○ Φ400 |
| ○ Φ800 | ○ 7.2 m- Φ800 | ● Φ600 |
| ○ Φ1,000 | ○ 7.2 m- Φ1,000 | ○ Φ800 |
| ⇒ Rotary drive | ○ Grouting system | ○ Φ1,000 |
| ● Adjustable rotary drive torque | ○ Crowd system | ● Alarm system |

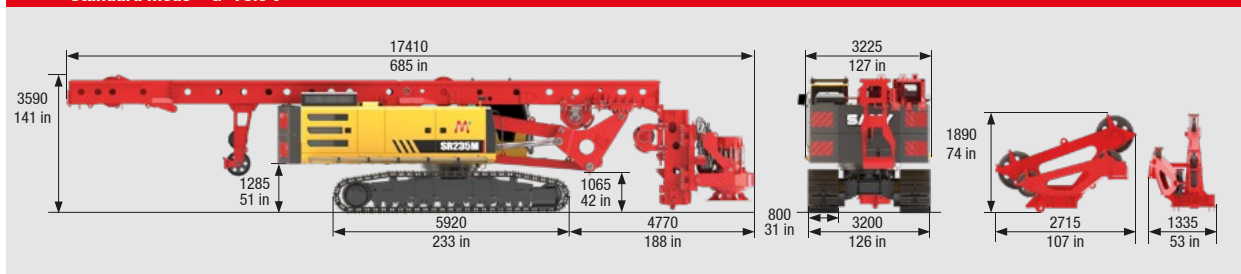
● standard ○ optional

Transport Data– Dimensions and Weights

Standard Transportation size

| | | |
|------------------|-----------|------------|
| Transport weight | 75.6 t | 166,669 lb |
| Transport length | 17,410 mm | 685 in |
| Transport width | 3,225 mm | 127 in |
| Transport height | 3,590 mm | 141 in |

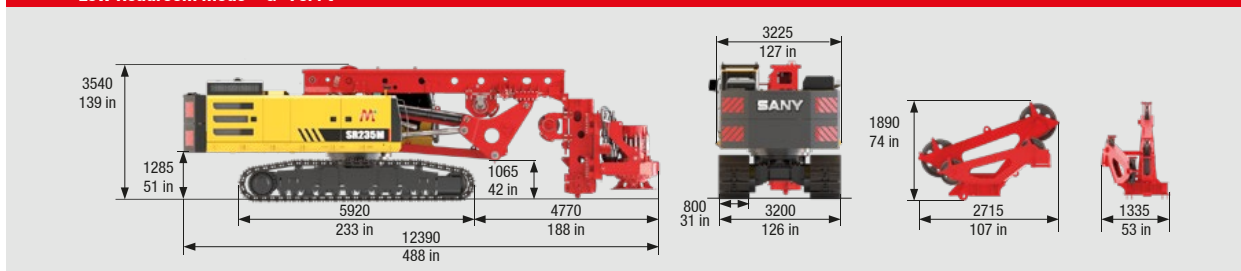
Standard mode – G=75.6 t



Standard Transportation size

| | | |
|------------------|-----------|------------|
| Transport weight | 70.4 t | 155,205 lb |
| Transport length | 12,390 mm | 488 in |
| Transport width | 3,225 mm | 127 in |
| Transport height | 3,540 mm | 139 in |

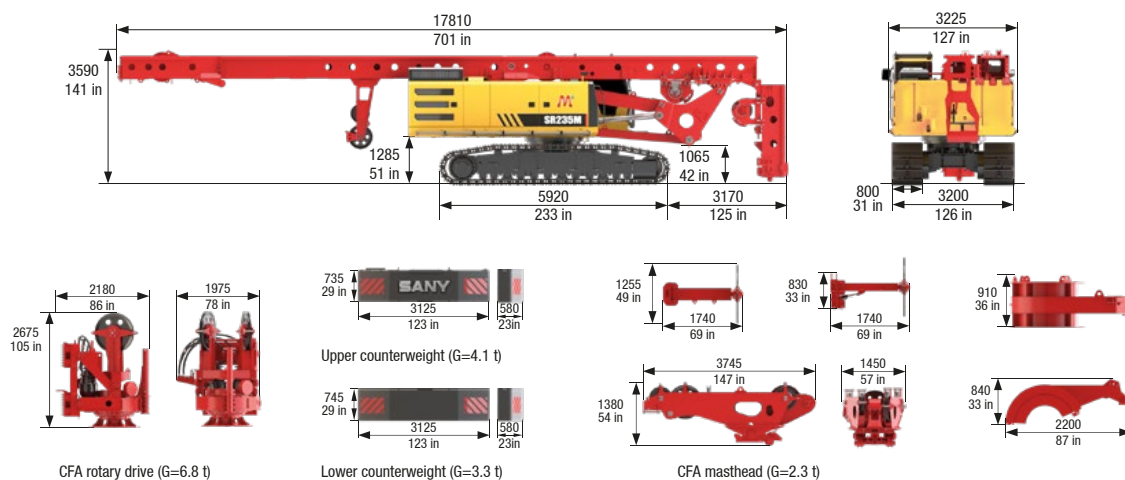
Low Headroom mode – G=70.4 t

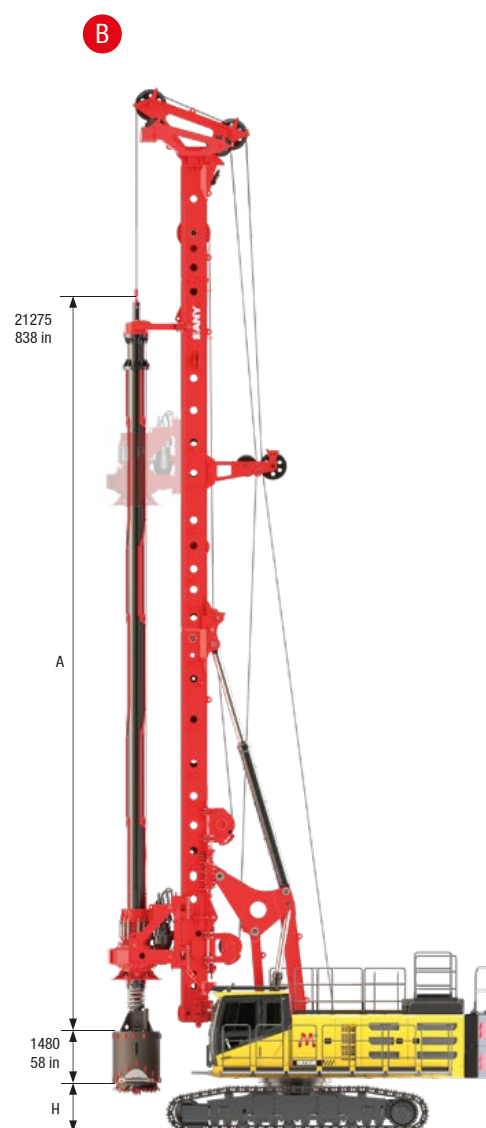
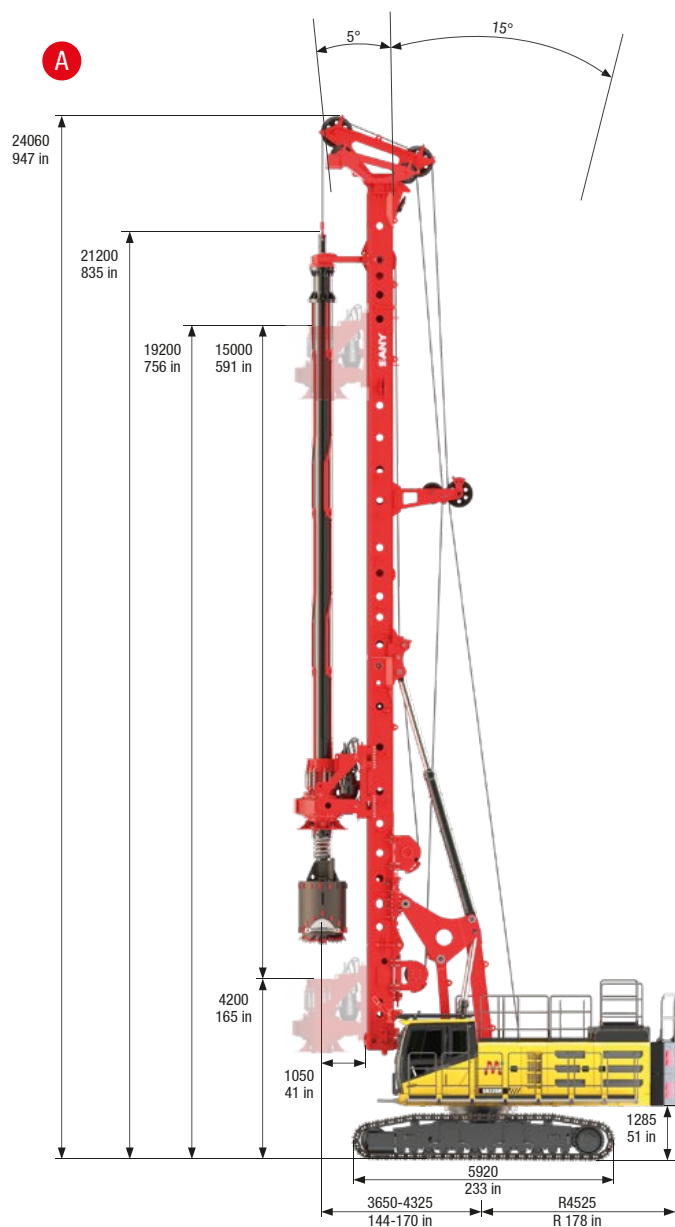


CFA Standard Transportation size

| | | |
|------------------|-----------|------------|
| Transport weight | 63.1 t | 139,111 lb |
| Transport length | 17,810 mm | 701 in |
| Transport width | 3,225 mm | 127 in |
| Transport height | 3,590 mm | 141 in |

CFA mode – G=63.1 t





A - Kelly bar

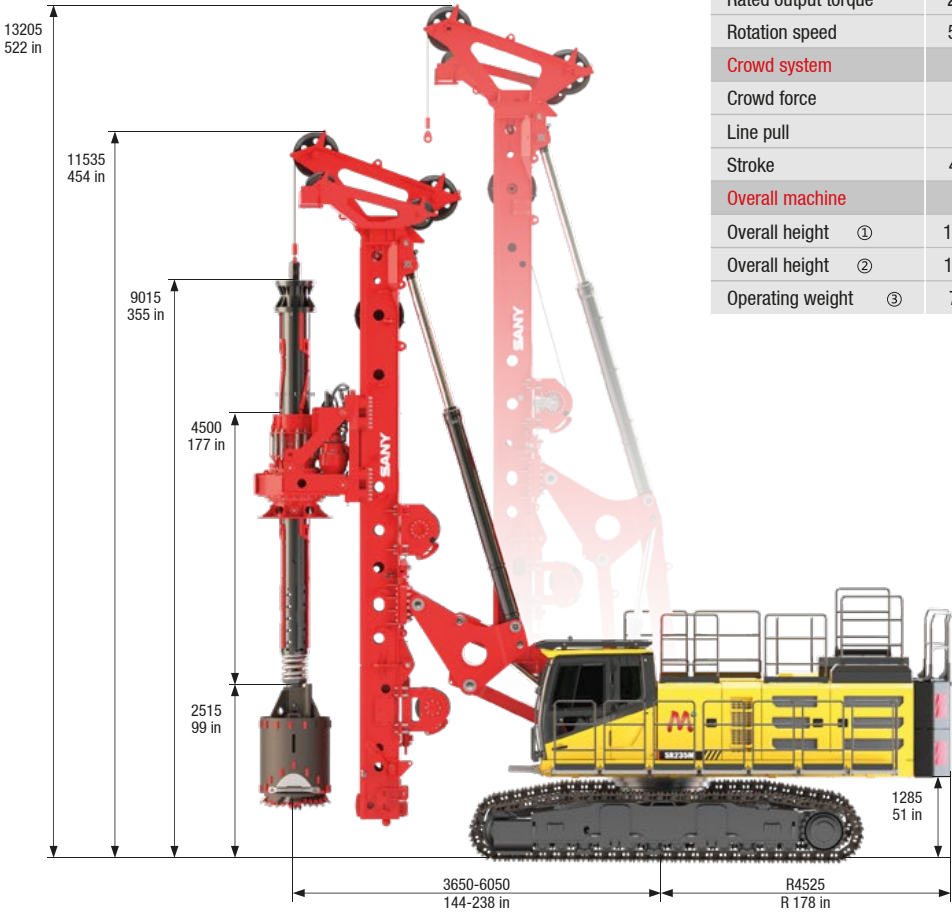
| | | |
|----------------------------------|--|-----------------|
| • Max. pile diameter | 2,000 mm | 79 in |
| • Max. pile depth | 58 m (Interlock bar) / 73 m (Friction bar) | 191 ft / 240 ft |
| • Crowd force push | 210 kN | 47,210 lbf |
| • Crowd force pull | 270 kN | 60,698 lbf |
| • Stroke | 15,000 mm | 591 in |
| • Main winch max. line pull | 235 kN | 52,830 lbf |
| • Auxiliary winch max. line pull | 80 kN | 17,985 lbf |

B - Standard mode Kelly bar & depth

| Kelly bar | | Transport length A | Kelly bar weight | Bucket above ground height H | Depth T |
|----------------------|-----------|--------------------|-----------------------|------------------------------|---------------------|
| Layer | Model | | | | |
| 4-part interlock bar | SK445J413 | 14,645 mm / 577 in | 9,900 kg / 21,826 lb | 5,150 mm / 203 in | 46,000 mm / 1811 in |
| | SK445J415 | 16,645 mm / 655 in | 11,300 kg / 24,912 lb | 3,150 mm / 124 in | 54,000 mm / 2126 in |
| 5-part friction bar | SK445M514 | 15,570 mm / 613 in | 10,300 kg / 22,708 lb | 4,225 mm / 166 in | 62,000 mm / 2441 in |
| | SK445M515 | 16,570 mm / 652 in | 10,900 kg / 24,030 lb | 3,225 mm / 127 in | 68,000 mm / 2677 in |
| | SK445M516 | 17,570 mm / 692 in | 11,500 kg / 25,353 lb | 2,225 mm / 88 in | 73,000 mm / 2874 in |

Low Headroom Mode

Multiple mast sections with standard connector, customised length based on requirements.

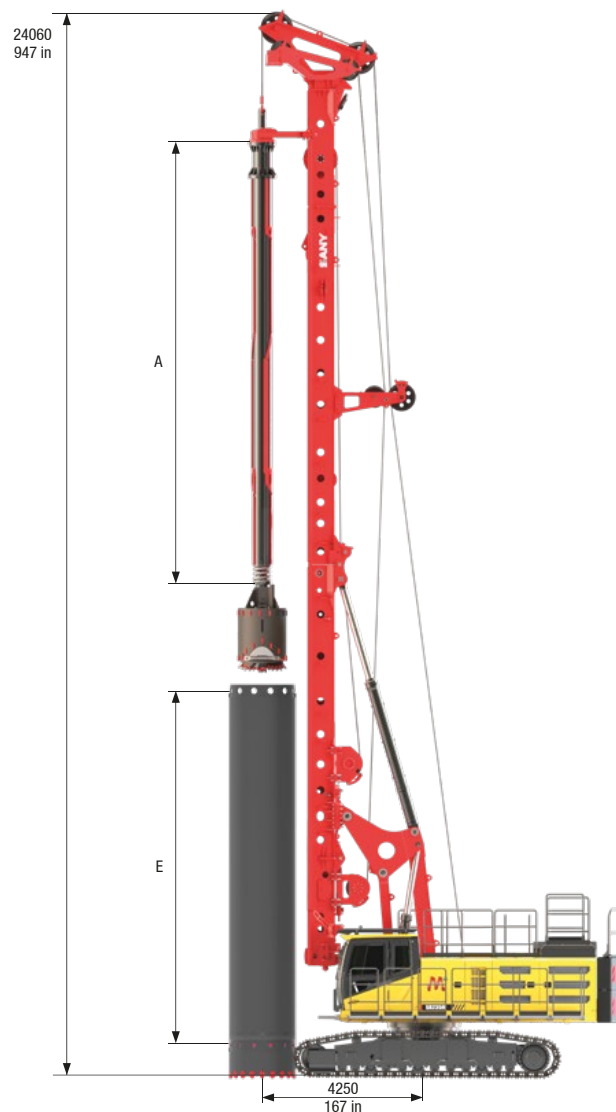


| Low headroom | | |
|------------------------|-----------|----------------|
| Pile | | |
| Max. drilling diameter | 2,000 mm | 79 in |
| Max. drilling depth | 24 m | 78.7 ft |
| Rotary drive | | |
| Rated output torque | 235 kN·m | 173,327 lbf ft |
| Rotation speed | 5~30 rpm | 5~30 rpm |
| Crowd system | | |
| Crowd force | 210 kN | 47,210 lbf |
| Line pull | 270 kN | 60,698 lbf |
| Stroke | 4,500 mm | 177 in |
| Overall machine | | |
| Overall height ① | 13,205 mm | 522 in |
| Overall height ② | 11,535 mm | 454 in |
| Operating weight ③ | 75,000 kg | 165,347 lb |

| Kelly bar | Weight | Depth | Option |
|--|-----------|---------|----------|
| Interlock kelly $\Phi 445 \times 4 \times 6$ | 5,570 kg | 18 m | Standard |
| | 12,280 lb | 59 ft | |
| Friction kelly $\Phi 445 \times 5 \times 6$ | 4,800 kg | 24 m | |
| | 10,582 lb | 78.7 ft | |

Remarks: ① The boom at highest location. ② The boom at lowest location. ③ With standard kelly bar.

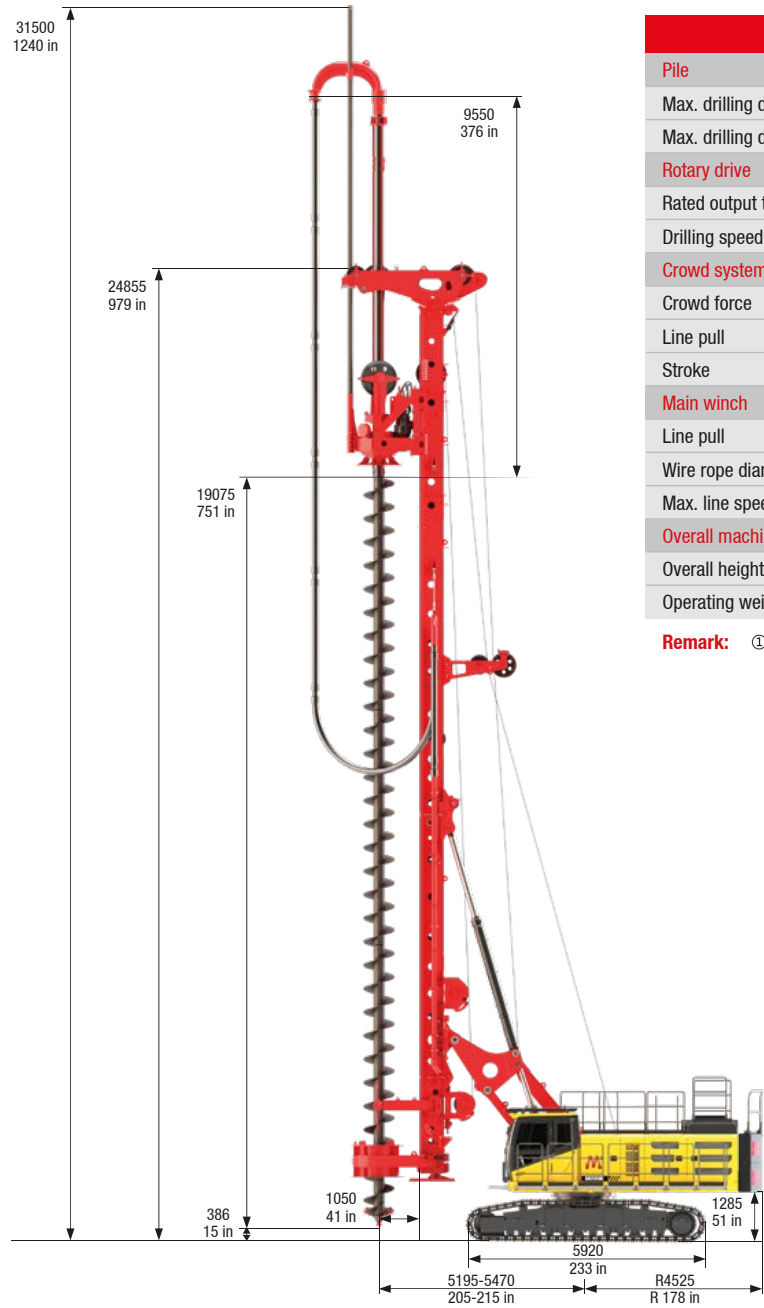
Casing Kelly Drilling



| Kelly bar specifications | Maximum depth | | Casing length with Casing oscillator E | | Casing length with Casing adaptor E | |
|--------------------------|---------------|----------|--|---------|-------------------------------------|---------|
| | | | | | | |
| SK445J409 | 29 m | 95.1 ft | 7 m | 23.0 ft | 8 m | 26.2 ft |
| SK445J410 | 33 m | 108.3 ft | 6 m | 19.7 ft | 7 m | 23.0 ft |
| SK445J411 | 37 m | 121.4 ft | 5 m | 16.4 ft | 6 m | 19.7 ft |
| SK445J412 | 42 m | 137.8 ft | 4 m | 13.1 ft | 5 m | 16.4 ft |
| SK445J413 | 46 m | 150.9 ft | 3 m | 9.8 ft | 4 m | 13.1 ft |
| SK445J414 | 50 m | 164.0 ft | 2 m | 6.6 ft | 3 m | 9.8 ft |
| SK445J415 | 54 m | 177.2 ft | 1 m | 3.3 ft | 2 m | 6.6 ft |

CFA Mode

CFA construction management system is highly integrated with the main control program in one screen. Warning of abnormal CFA construction. Cloud storage of construction record data, such as pile number, hole depth and time. It's convenient for construction management.



| CFA mode | | |
|------------------------|--------------|-----------------------|
| Pile | | |
| Max. drilling diameter | 1,000 mm | 39.4 in |
| Max. drilling depth | 25.5 m | 83.7 ft |
| Rotary drive | | |
| Rated output torque | 100~230 kN·m | 73,756~169,639 lbf ft |
| Drilling speed | 5~30 rpm | 5~30 rpm |
| Crowd system | | |
| Crowd force | 210 kN | 47,210 lbf |
| Line pull | / | / |
| Stroke | 17,000 mm | 669 in |
| Main winch | | |
| Line pull | 800 kN | 179,850 lbf |
| Wire rope diameter | 32mm | 1.26 in |
| Max. line speed | 17.5 m/min | 57.4 ft/min |
| Overall machine | | |
| Overall height ① | 31,500 mm | 1,240 in |
| Operating weight | 90t | 198,416 lb |

Remark: ① With pipe.

A SERVICE YOU CAN TRUST

Just as we do with our products, we also demand high quality and reliability of our service products. After all, maintenance is crucial for efficiency, cost-effectiveness and safety.

Our service commitment includes:

- A dedicated SANY team based in the UK to support our customers and their products
- Machine assembly, commissioning, delivery inspection and operator training undertaken by a SANY service engineer on all new machines
- Routine service inspection undertaken every 2 months
- Full service inspection undertaken annually
- GCP App for service support 24/7
- Easy access to parts via our dedicated parts warehouse located in Scotland



QUALITY YOU CAN RELY ON

With the principle of 'Quality Changes the World', SANY has always been dedicated to providing the complete solution of foundation construction machinery to customers on a global scale.

SANY's piling foundations and underground construction machinery manufacturing capabilities have been recognised as being the most advanced in the world and an example of the highest level of digital manufacturing, advanced automation, human-machine collaboration, and AI and IoT technologies. This allows us to deliver an intelligent and complete piling experience for our customers with industry leading levels of performance, efficiency, flexibility and energy conservation.





SANY Heavy Machinery (UK) Ltd (A SANY GROUP COMPANY)

Unit 6, M8 Interlink Estate, Coatbridge, Glasgow ML5 4RP

www.sanyuk.com www.sanyglobal.com