

# SM-14 MICROPILES

**soilmec**®  
Drilling and Foundation Equipment



# SM-14, your next mid-size drilling rig!

This compact rig is able to perform a wide range of technologies such as micropiles, anchors, soil investigation and consolidations with jet grouting.





### Flexible and powerful at your service

- Swiveling boom articulation by slew ring on the base machine enables parallel drilling on the tracks up to +/- 90°, slew ring on mast for +/- 180° rotation, along with the sliding mast operated by cylinder makes the machine able to perform a wide variety of angles and positions.
- Powered by the most advanced Stage V Deutz Diesel engines (Stage III version are also available).
- Range of rotary heads with different torques and speeds to suit the various drilling needs.

### Safety First, No Compromise

Complies with the latest international Safety standards.

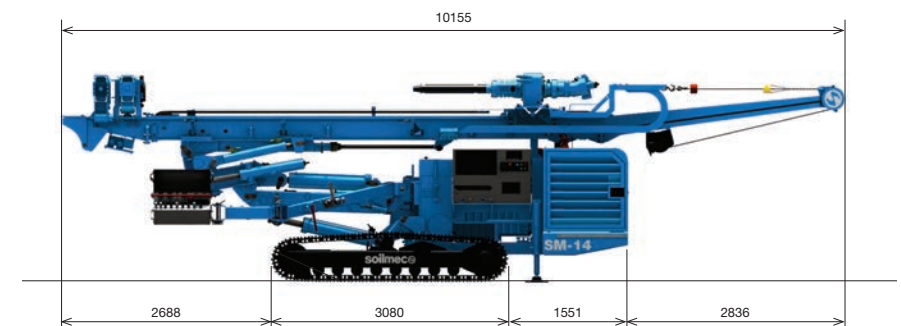
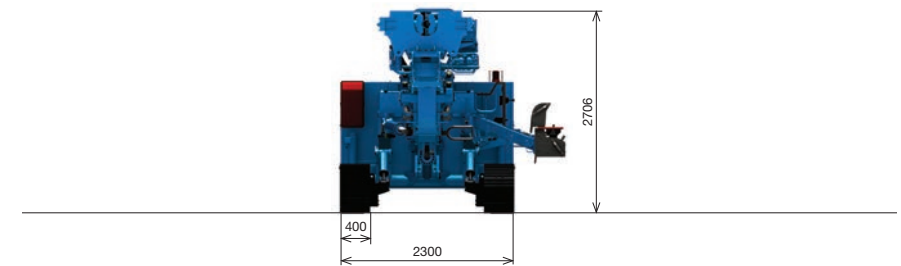
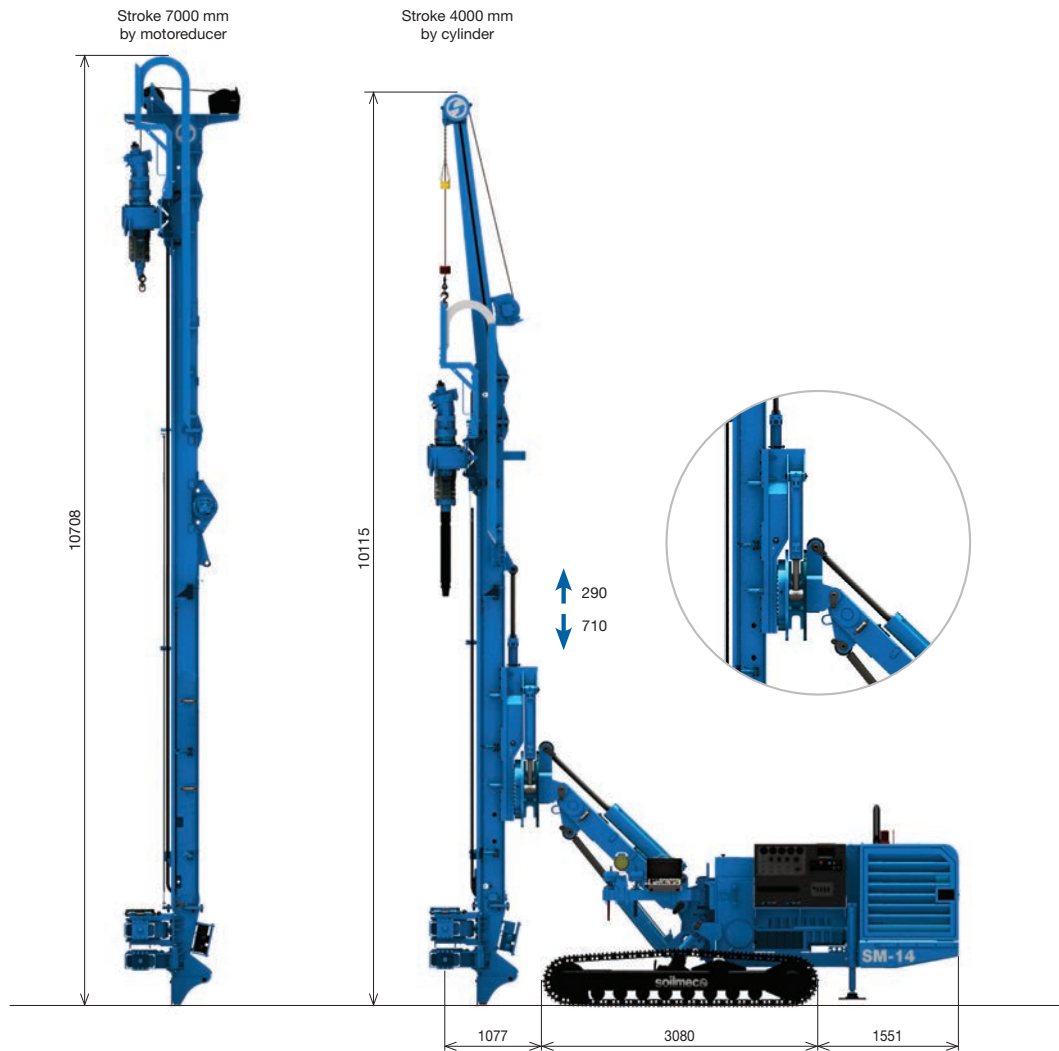
- Hydraulic openable cages
- Additional trip wires devices
- Emergency stop buttons
- ROM and SPM operation modes

### Excellent versatility and increased manoeuvrability

- Modular mast with motoreducer crowd system.
- Radio remote control for drilling, positioning and tramming or hydraulic/proportional panel mounted on pivotal support arm for drilling operations.
- The rig is fitted with proportional, hydraulic servo-assisted controls that make operations smooth.
- Featured with Load Sensing System, it has lower running costs and a reduced wear and tear on components.



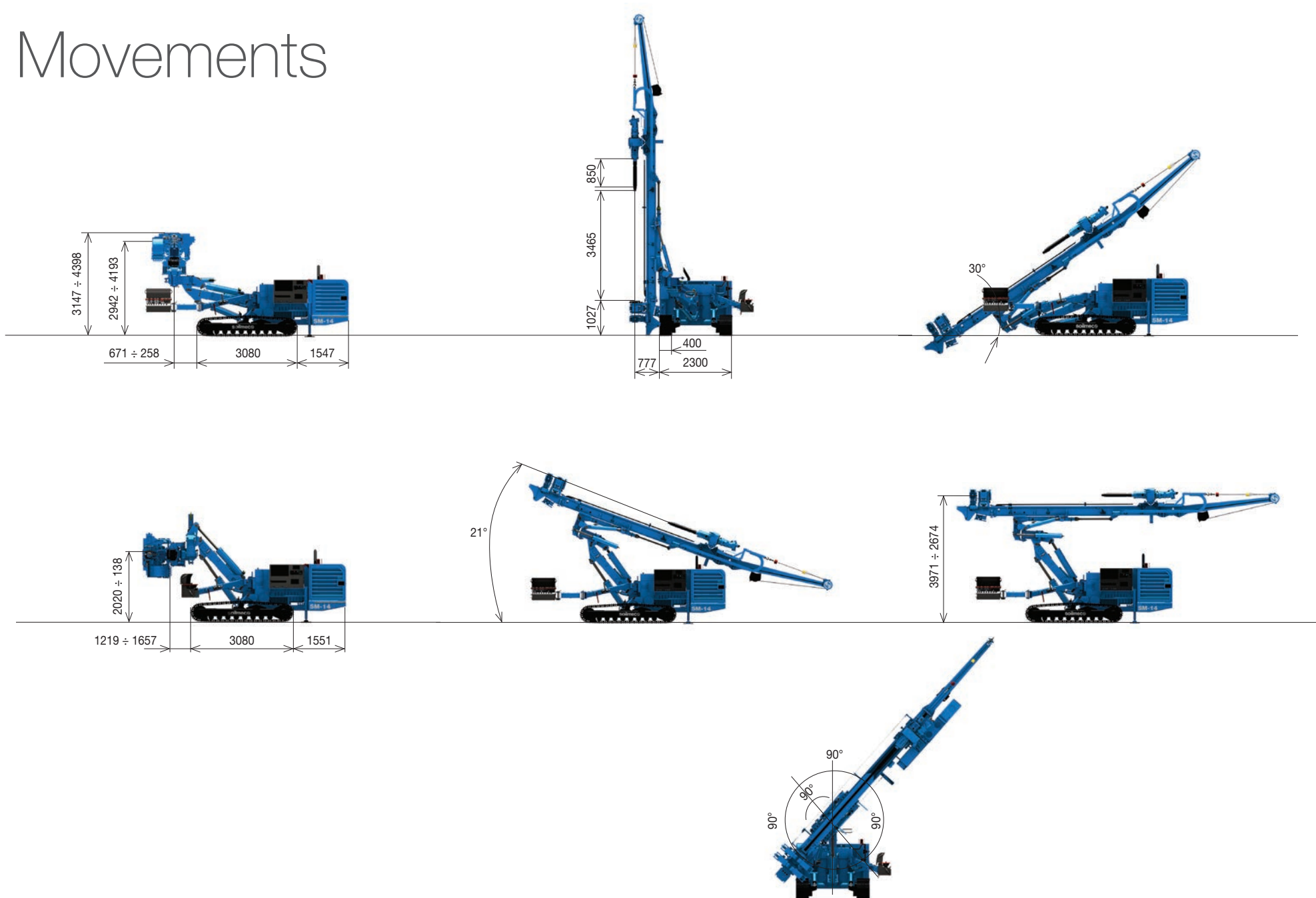
# Working Configuration



## Transport configuration

Width	2300 mm	91 in
Height	2750 mm	108.3 in
Length (stroke 4000/7000)	10155 / 10424 mm	400 / 410 in
Weight (stroke 4000/7000)	14300 / 14600 mm	31526 32187 lb

# Movements



# Technical data

## Undercarriage

Undercarriage		
Type	<b>fixed gauge</b>	<i>fixed gauge</i>
Triple grouse track shoe width	<b>400 mm</b>	<i>15.7 in</i>
Wheel base (centre idler to centre sprocket)	<b>2481 mm</b>	<i>97.7 in</i>
Overall length	<b>3080 mm</b>	<i>121.2 in</i>
Overall width (not extendable crawler)	<b>2300 mm</b>	<i>90.6 in</i>
Travelling speed	<b>2,7 km/h</b>	<i>1.68 mph</i>
Average ground pressure	<b>0,070 MPa</b>	<i>10.2 psi</i>
Ground stabilizers	<b>N°2 fixed on rear</b>	<i>N°2 fixed on rear</i>

## Diesel engine

Diesel Engine		
Make and model	<b>Cummins QSB 4.5</b>	<i>Cummins QSB 4.5</i>
Emission certification <sup>1</sup>	<b>EU stage IV US EPA Tier 4f</b>	<i>EU stage IV US EPA Tier 4f</i>
Diesel engine power rating	<b>110 kW @ 2200 rpm</b>	<i>159 HP @ 2200 rpm</i>
Fuel tank capacity	<b>200 l</b>	<i>53 US gal</i>
AD Blue tank capacity	<b>- l</b>	<i>- US gal</i>

## Hydraulic system

Hydraulic System		
Main pumps: <i>variable axial pumps</i>	<b>156 + 156 l/min</b>	<i>41.2 + 41.2 US gal/min</i>
Auxiliary pumps: <i>gear pumps</i>	<b>20 l/min</b>	<i>5.3 US gal/min</i>
Hydraulic oil tank capacity	<b>400 l</b>	<i>106 US gal</i>

## Rotary head

Rotary	HD 1200V	HD 1200 V	HT1400	HT1400
Gear box type	<b>Variable</b>	<i>Variable</i>	<b>Variable</b>	<i>Variable</i>
Maximum torque	<b>1210 daNm</b>	<i>8924 lbf*ft</i>	<b>1360 daNm</b>	<i>10031 lbf*ft</i>
Maximum rotation	<b>277 rpm</b>	<i>277 rpm</i>	<b>229 rpm</b>	<i>229 rpm</i>
Inner passage	<b>124 mm</b>	<i>4.9 in</i>	<b>124 mm</b>	<i>4.9 in</i>

	HTD 2500G	HTD 2500G	HD 2000	HD 2000
Gear box type	<b>3 speed</b>	<i>3 speed</i>	<b>Variable</b>	<i>Variable</i>
Maximum torque	<b>2550 daNm</b>	<i>18807 lbf*ft</i>	<b>2023 daNm</b>	<i>14921 lbf*ft</i>
Maximum rotation	<b>52 rpm</b>	<i>52 rpm</i>	<b>130 rpm</b>	<i>130 rpm</i>
Inner passage	<b>101,5 mm</b>	<i>4 in</i>	<b>144 mm</b>	<i>6 in</i>

## Clamp & hydraulic joint breaker

	HT 3400	HT 3400
Gear box type	<b>3 Speed</b>	<i>3 Speed</i>
Maximum torque	<b>3000 daNm</b>	<i>28764 lbf*ft</i>
Maximum rotation	<b>51 rpm</b>	<i>51 rpm</i>
Inner passage	<b>134 mm</b>	<i>5 in</i>

Clamp & Hydraulic joint breaker		
Nominal size	<b>up to 60 - 415 mm</b>	<i>up to 2.4 - 16.3 in</i>
Maximum clamping force	<b>268 kN</b>	<i>58798 lbf</i>
Maximum breaking torque	<b>5060 daNm</b>	<i>37321 lbf*ft</i>
Pull-up extractor clamp force/stroke	<b>100 kN / 400 mm</b>	<i>22481 lbf / 3.9 in</i>

## Service winch

Service winch		
Type	<b>Controlled descent</b>	<i>Controlled descent</i>
1° layer line pull	<b>20 kN</b>	<i>4496 lbf</i>
Rope diameter	<b>10 mm</b>	<i>0.39 in</i>
Rope speed	<b>46 m/min</b>	<i>151 ft/min</i>

## Hoist & Feed System

Hoist & Feed System				
Type	<b>cylinder</b>	<i>cylinder</i>	<b>motoreducer</b>	<i>motoreducer</i>
Feed Stroke	<b>4000 mm</b>	<i>157.5 in</i>	<b>4300-7000 mm</b>	<i>171.3-275.6 in</i>
Max Hoist pull	<b>89 kN</b>	<i>20008 lbf</i>	<b>99 kN</b>	<i>2256 lbf</i>
Max Feed force	<b>45 kN</b>	<i>10116 lbf</i>	<b>99 kN</b>	<i>2256 lbf</i>
Max speed fast/low	<b>28/6 m/min</b>	<i>92/20 ft/min</i>	<b>28/5 m/min</b>	<i>95/16 ft/min</i>

# Configurations

Fixed undercarriage	●
Upper frame complete with slew ring for 360° rotation	●
Wired remote control for tramming only	○
Full radio remote control	●
7" LCD monitor for alarms & diesel engine control and DMS connectivity	●
Hydraulic and proportional controls for all operations	●
Mast extension kits	●
Auxiliary winch, 5 kN (1124 lbf)	●
Clamp & breaker 50-220 mm (1.96 - 8.7 in)	○
Clamp & breaker 50-320 mm (1.96 - 12.6 in)	●
Clamp & breaker 50-360 mm (1.96 - 14.26 in)	○
Fixed boom	○
Telescopic boom	●
Kinematic mechanism - 90° joint	○
Kinematic mechanism - ± 180° motoreducer	●
Diesel engine EU Stage V - US EPA Tier 4f	●
Diesel engine EU Stage III - US EPA Tier 3	○
Load sensing hydraulic system	●
Hydraulic prearrangement for auxiliary pumps	●
Rotary cradle complete with pads and side shifting movements	●
Floating system for rotary head	○
Air/water system and line lubricator for DTH	○
Foam pump c/w gauge pressure and safety valve	○
Water & mud pumps	○
Centering device	○
Slow rotation kit and special protective mode	○
Hydraulic safety cage kit driven by cylinder	○
Lighting system on mast	○
Washing kit including with hose rewiner & washing lance	●
Fire extinguisher	●
Double rotary kit	○
Jet grouting kit, single fluid	○
Jet grouting kit, double fluid	○
Hydraulic chuck complete with gauge pressure and safety device	○
Extension for jet grouting	○

Fully hydraulic version prearrangement for Jet Grouting	○
Full radio version prearrangement for Jet Grouting	○
Hydraulic pump for foam 30 l/min @ 150 bar (7.9 gallon @ 2176 psi)	○
Triplex pump for water flushing 200 l/min @ 80 bar (52.8 gallon @ 1160 psi)	○
RH200 Top hammer Kit and prearrangement	○
RH4x Top Hammer Kit and prearrangement	○
RH10x Top Hammer Kit and prearrangement	○
Start & Slow engine control for radio remote version	●
Start & Slow engine control for hydraulic version	○

● standard

○ optional



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