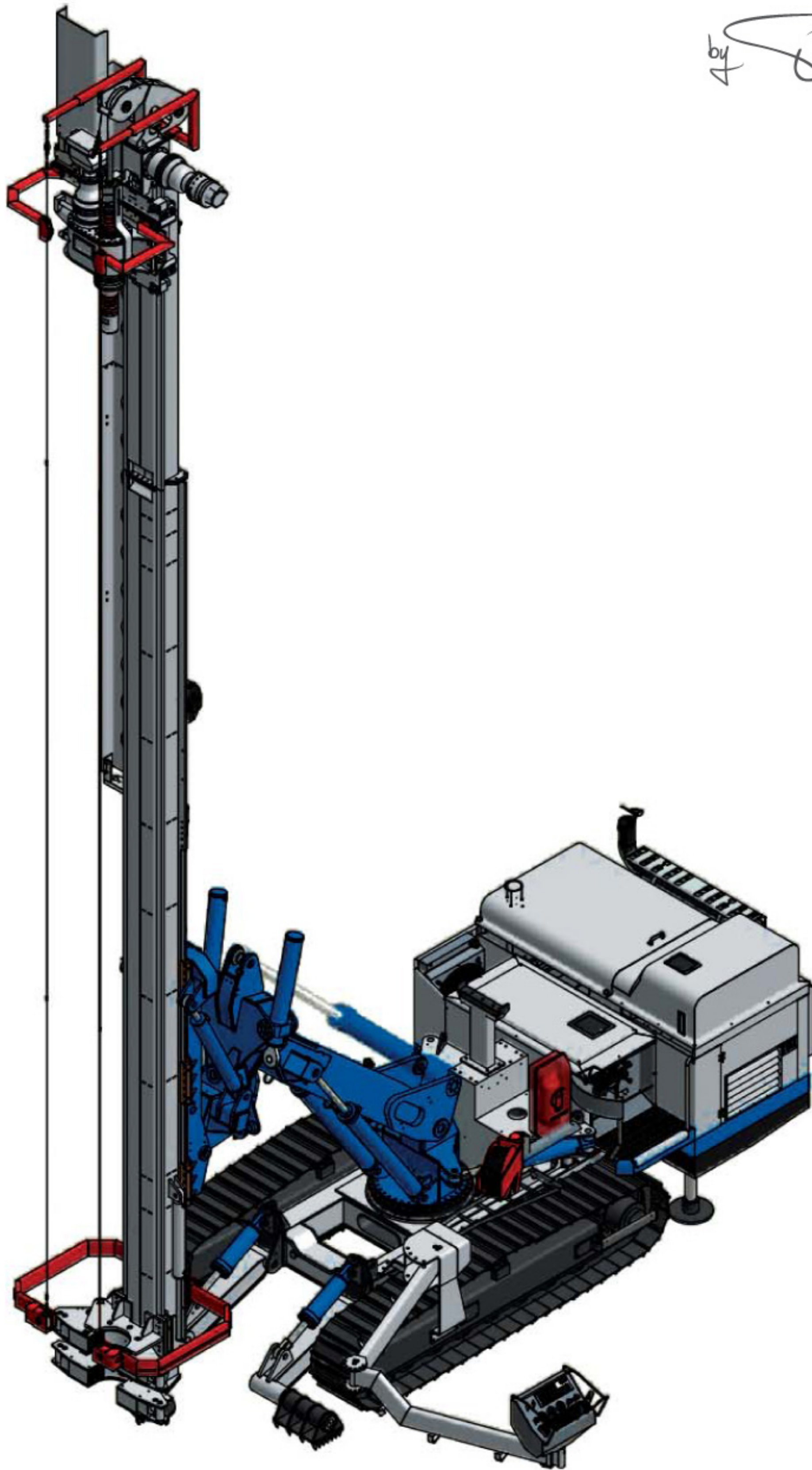
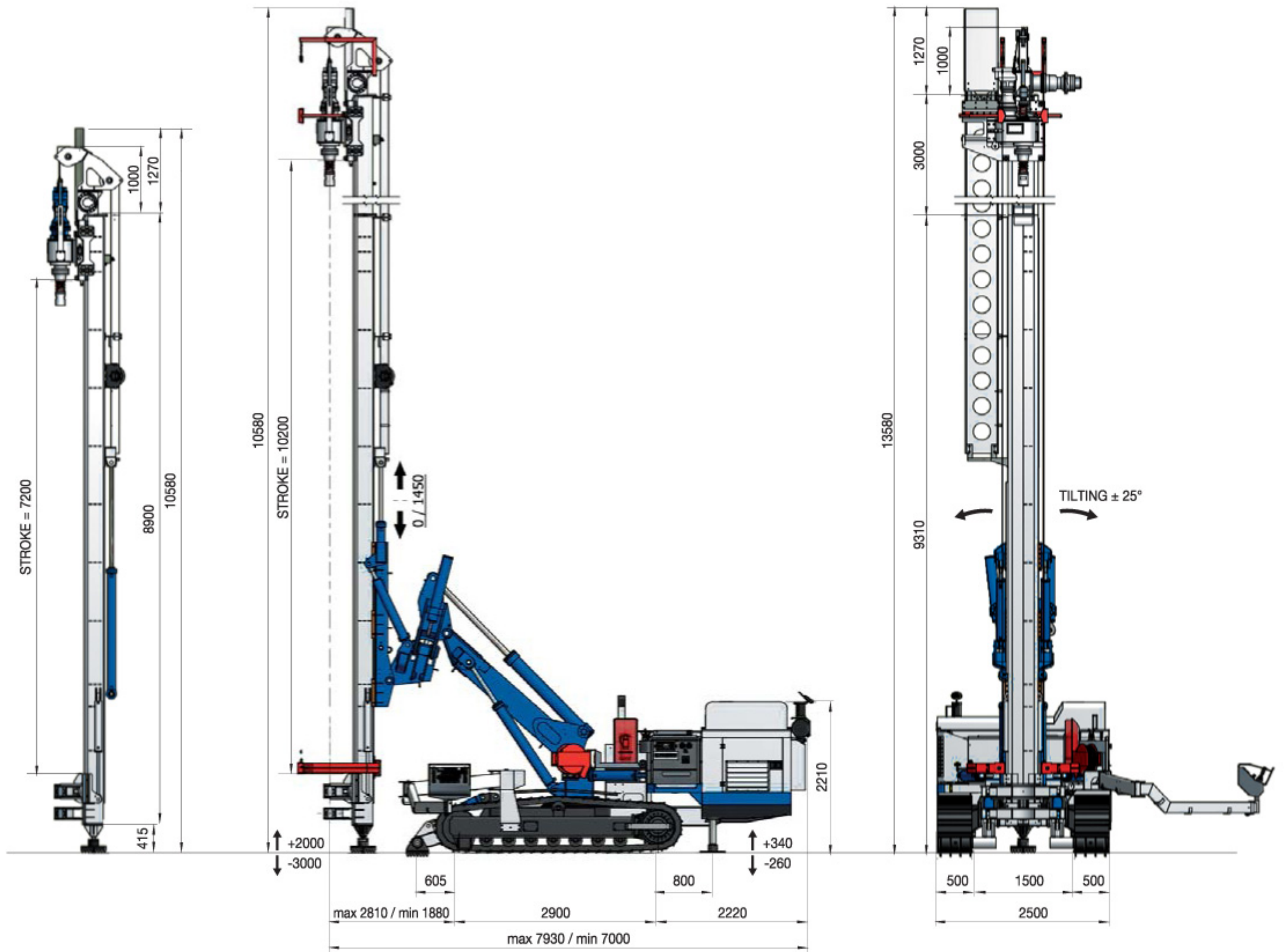


Hydraulic Microdrilling Rig  
**SM-20**

by *Soilmec*



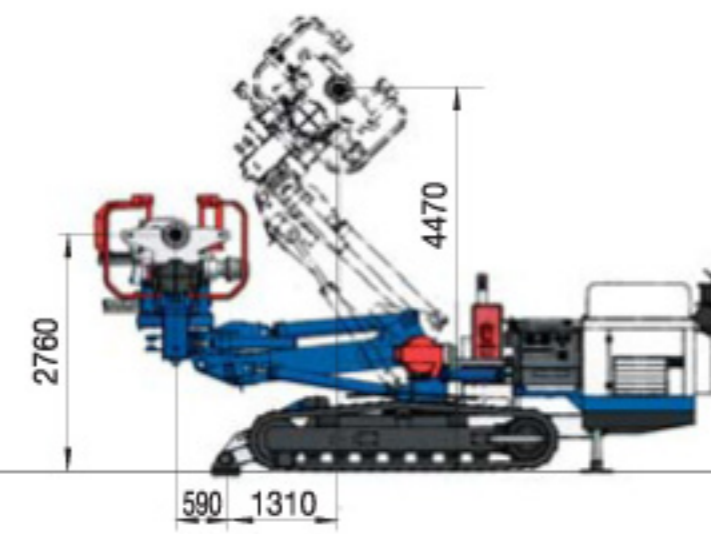
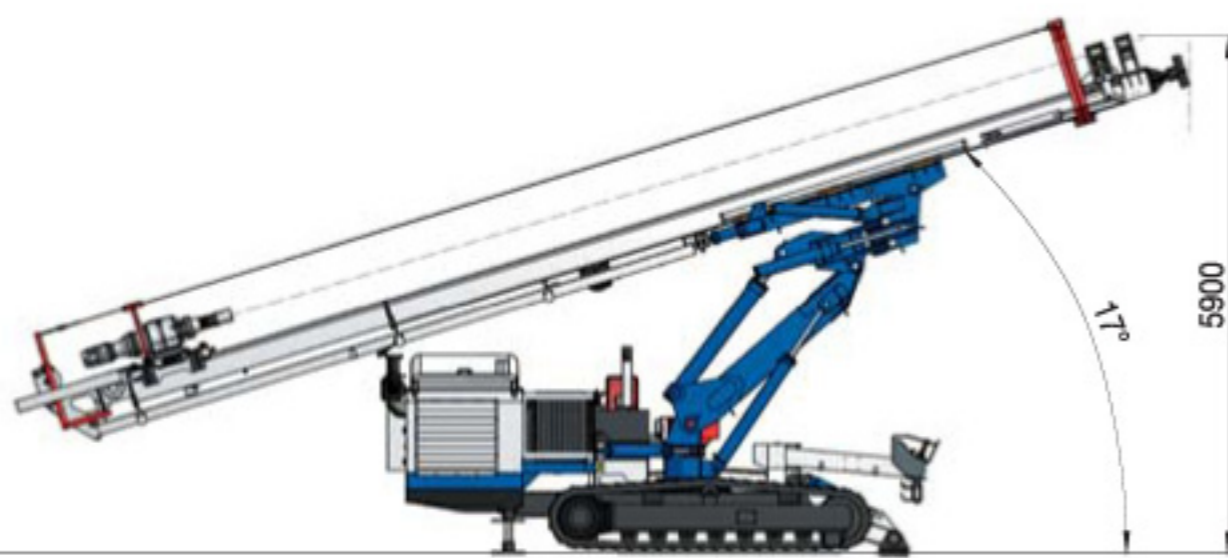
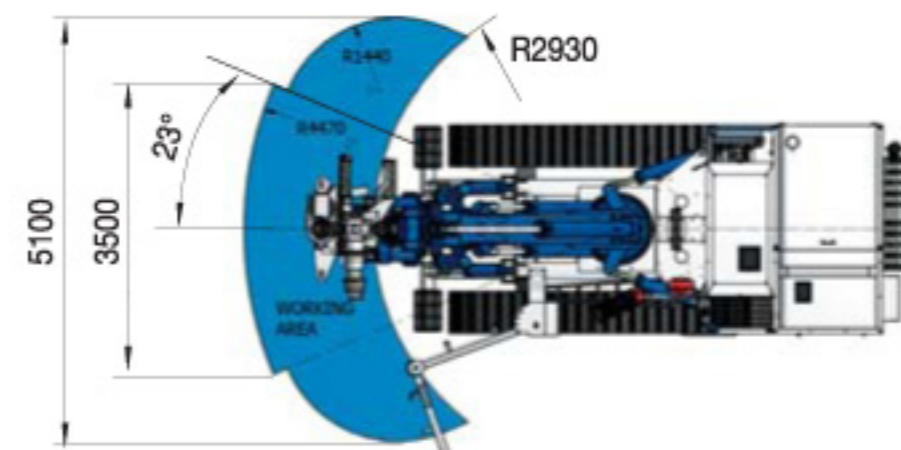
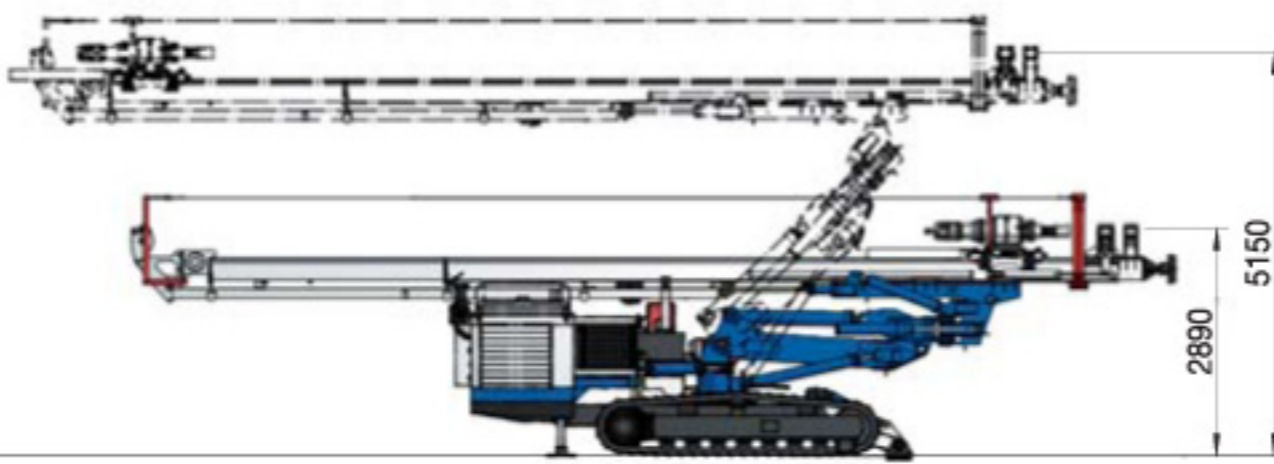
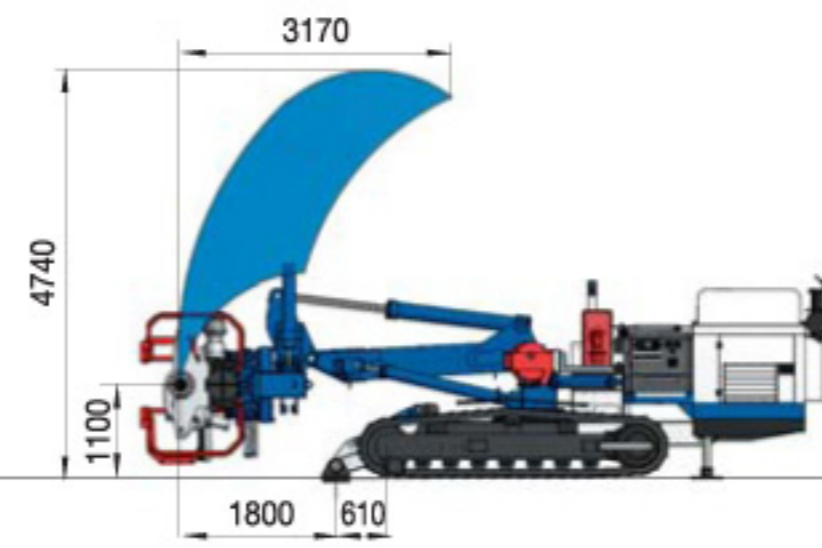
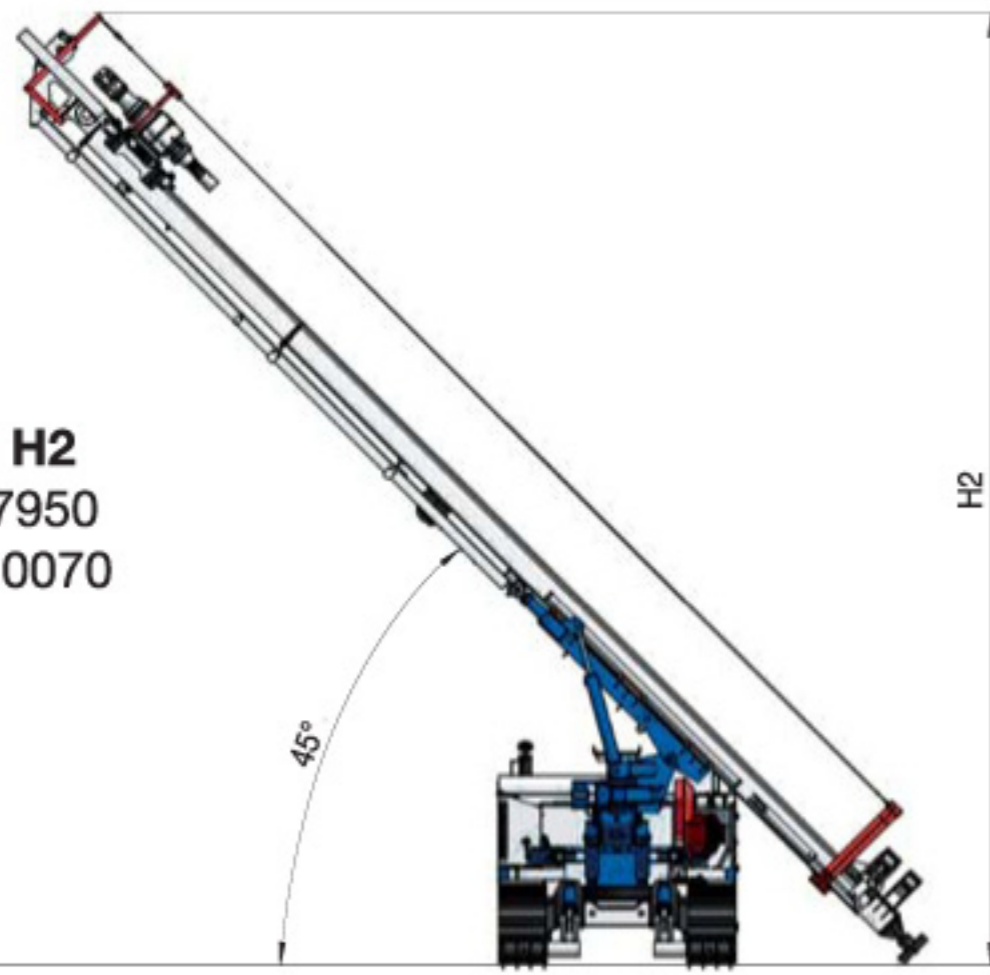
# SM-20 APPLICATIONS



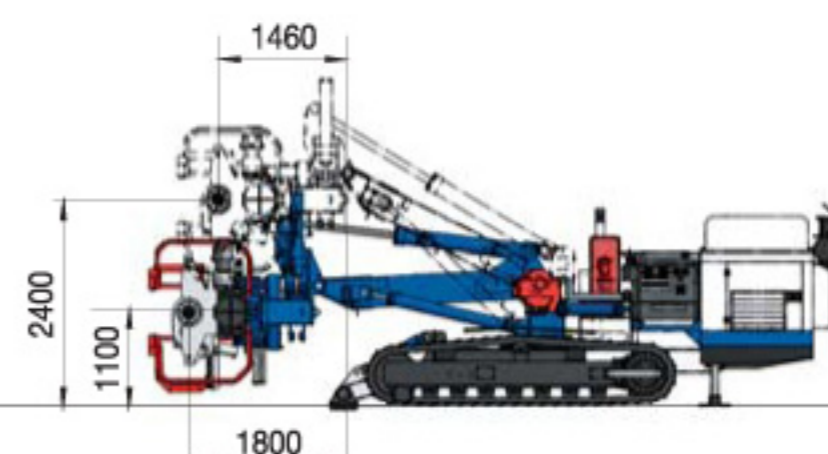
Hoist & Feed system	Motoreducer	Motoreducer	Motoreducer	Motoreducer
- Feed stroke	7200 mm	283.5 in	10200 mm	401.6 in
- Rod length type (c/w one rotary head)	6 m	19.7 ft	9 m	29.5 ft
- Maximum hoist pull/feed force	83 kN	18659 lbf	83 kN	18659 lbf
Rotary head range	HR-17G	HR-17G	HR-21G	HR-21G
- Gear box type	Variable	Variable	Variable	Variable
- Maximum torque	1474 daNm	10872 lb*ft	2154 daNm	15887 lb*ft
- Maximum rotation	295 rpm	295 rpm	315 rpm	315 rpm
- Inner passage	90 mm	3.5 in	127 mm	5.0 in

# SM-20 MOVIMENTATIONS

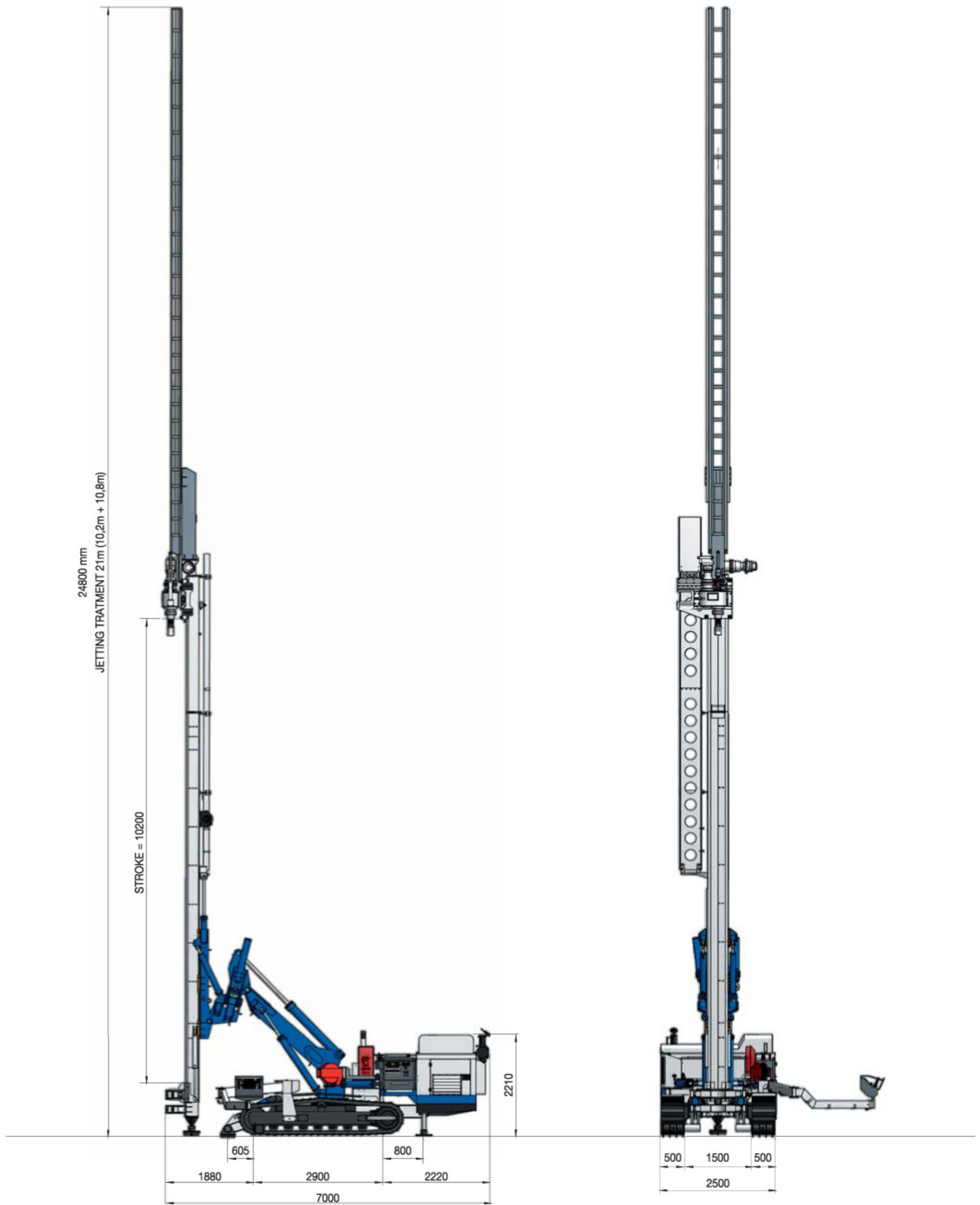
Stroke	H2
7200	7950
10200	10070



Stroke	H1
7200	5600
10200	6970



# SM-20 JET GROUTING



JET GROUTING VERSION		
Rod diameter	114 mm	4.49 in
Max treatment depth in a single passage	21 m	69 ft
Drillguide extensions	10,8 m	35.4 ft

# SM-20 TECHNICAL DATA SHEET

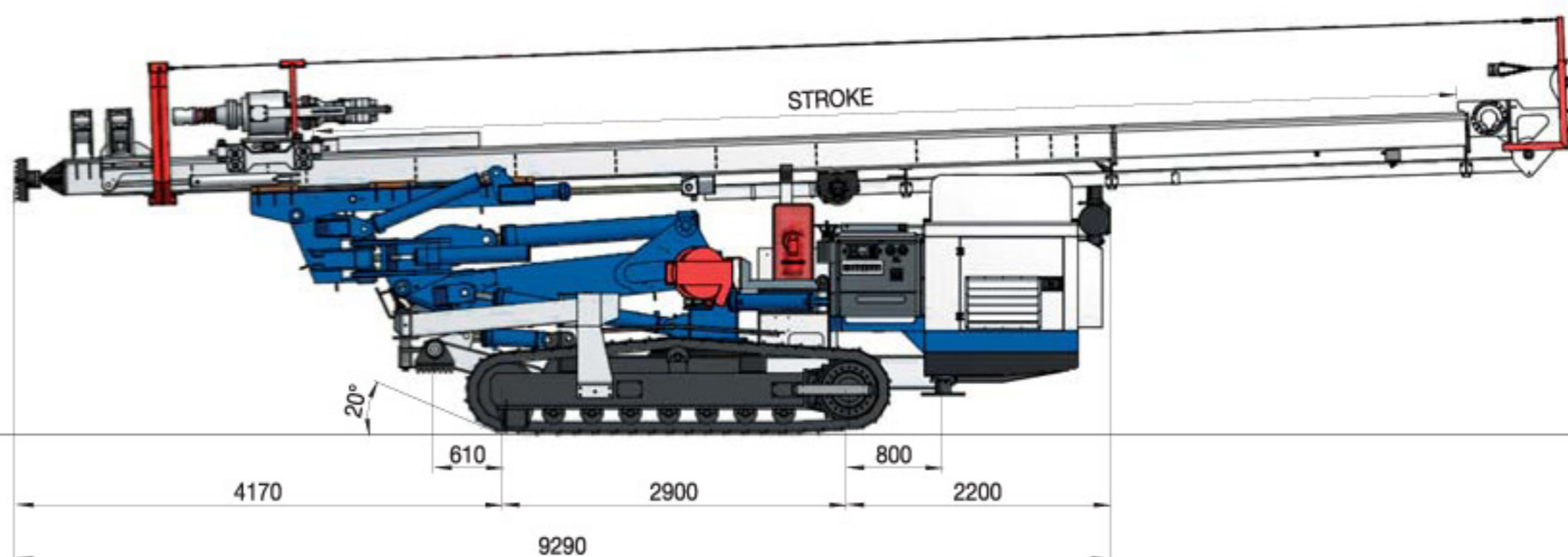
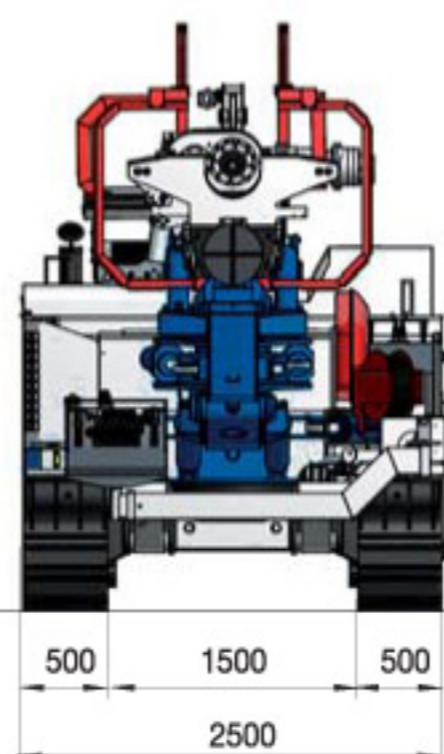
<b>Operating weight (approx.)</b>	<b>21000 kg</b>	<b>46297 lb</b>
<b>Undercarriage</b>		
- Track shoe width	<b>500 mm</b>	<b>19.7 in</b>
- Wheel base (centre idler to centre sprocket)	<b>1705 mm</b>	<b>67.1 in</b>
- Overall length	<b>3631 mm</b>	<b>143.0 in</b>
- Overall width (not extendable crawler)	<b>2500 mm</b>	<b>98.4 in</b>
- Travelling speed	<b>2,00 km/h</b>	<b>1.24 mph</b>
- Max climbing capacity (gradeability)	<b>34 % (19°)</b>	<b>34 % (19°)</b>
- Average ground pressure	<b>0,070 MPa</b>	<b>10.2 psi</b>
- Ground stabilizers	<b>n° 2 fixed with inclined arm on front + n° 2 fixed on rear</b>	<b>n° 2 fixed with inclined arm on front + n° 2 fixed on rear</b>
<b>Diesel Engine</b>		
- Make and model	<b>DEUTZ TCD 2012 L06</b>	<b>DEUTZ TCD 2012 L06</b>
- Emission certification	<b>UE 2004/26/CE Stage IIIA - US EPA nonroad Tier 3</b>	<b>UE 2004/26/CE Stage IIIA - US EPA nonroad Tier 3</b>
- Aspiration	<b>turbocharged and charge liquid cooled</b>	<b>turbocharged and charge liquid cooled</b>
- Power rating	<b>129 kW @ 2000 rpm</b>	<b>173 HP @ 2000 rpm</b>
- Fuel tank capacity	<b>180 l</b>	<b>48 US gal</b>
- Sound power level and sound pressure level	<b>LwA 110 - LpA 90 dB(A)</b>	<b>LwA 110 - LpA 90 dB(A)</b>
<b>Electric motor</b>		
- Make and model	<b>ABB 4 poles 50Hz 380 / 660v</b>	<b>ABB 4 poles 50Hz 380 / 660v</b>
- Power rating	<b>75 kW @ 1485 rpm</b>	<b>101 HP @ 1485 rpm</b>
<b>Hydraulic system</b>		
- Main pumps: variable axial pumps	<b>290 l/min</b>	<b>76.6 US gal/min</b>
- Set pressure main pumps	<b>30 MPa</b>	<b>4351 psi</b>
- Auxiliary pumps: gear pumps	<b>65 + 72 + 17 + 108 l/min</b>	<b>17.2 + 19.0 + 4.5 + 28.5 US gal/min</b>
- Hydraulic oil tank capacity	<b>410 l</b>	<b>108 US gal</b>
<b>Clamp &amp; guide</b>		
- Nominal size	<b>60 - 320 mm</b>	<b>2.4 - 12.6 in</b>
- Maximum clamping force	<b>188 kN</b>	<b>42263 lbf</b>
- Maximum breaking torque	<b>6000 daNm</b>	<b>44254 lbf*ft</b>
<b>Service winch</b>		
- Type	<b>controlled descent</b>	<b>controlled descent</b>
- 1st layer line pull	<b>20 kN</b>	<b>4496 lbf</b>
- 1st layer nominal rope speed	<b>57 m/min</b>	<b>187 ft/min</b>
- Rope diameter	<b>10 mm</b>	<b>0.39 in</b>
<b>Rod carousel</b>		
- N. of rods	<b>up to 8 (optional)</b>	<b>up to 8 (optional)</b>
- Rod diameter	<b>180 mm</b>	<b>7.1 in</b>
- Rod length	<b>6 m</b>	<b>19.7 ft</b>

## STANDARD EQUIPMENT

- N° 2 hydraulic outriggers
- 0-90° mast articulation
- Swivelling +/-23°
- Kinematic mechanism
  - Side movements +/- 23°
  - Articulated 90° join on mast
- Telescopic zoom and counter slide
- Casing extractor by piston 600 mm stroke
- 1200 mm stroke cylinder for mast shoring
- Control board on rotating arm for drilling and service functions
- Rotary cradle with side shifting stroke: 430 mm
- Floating system
- Service winch with jib
- Integrated foam pump
- Air/water system and line lubricator for DTH
- Kinematic mechanism are actuated by means of hydraulic panel on base carrier

## OPTIONAL EQUIPMENT

- Mast kit for 7000 mm stroke
- Jet Grouting kit for mono, bi or three fluids treatment and steeples lifting speed (max treatment depth 21 m in T1)
- Top hammer configuration: HB-50, hammer
- feeding 90 l/min @ 200 bar
- Rod carousel (2, 6, 8 rods), for mast with stroke 7000 mm and 9500 mm
- Synchronized loading system for rods and casings
- Lifting crane
- Radio remote control for drilling operation
- Double rotary kit
- Service crane
- Clamp and breaker up to 420 mm



Transport configuration	Stroke: 7200 mm		Stroke: 10200 mm	
Length	13300 mm	523.6 in	10300 mm	405.5 in
Height	3220 mm	126.8 in	3120 mm	122.8 in
Weight	21400 kg	47178 lb	22000 kg	48501 lb

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