

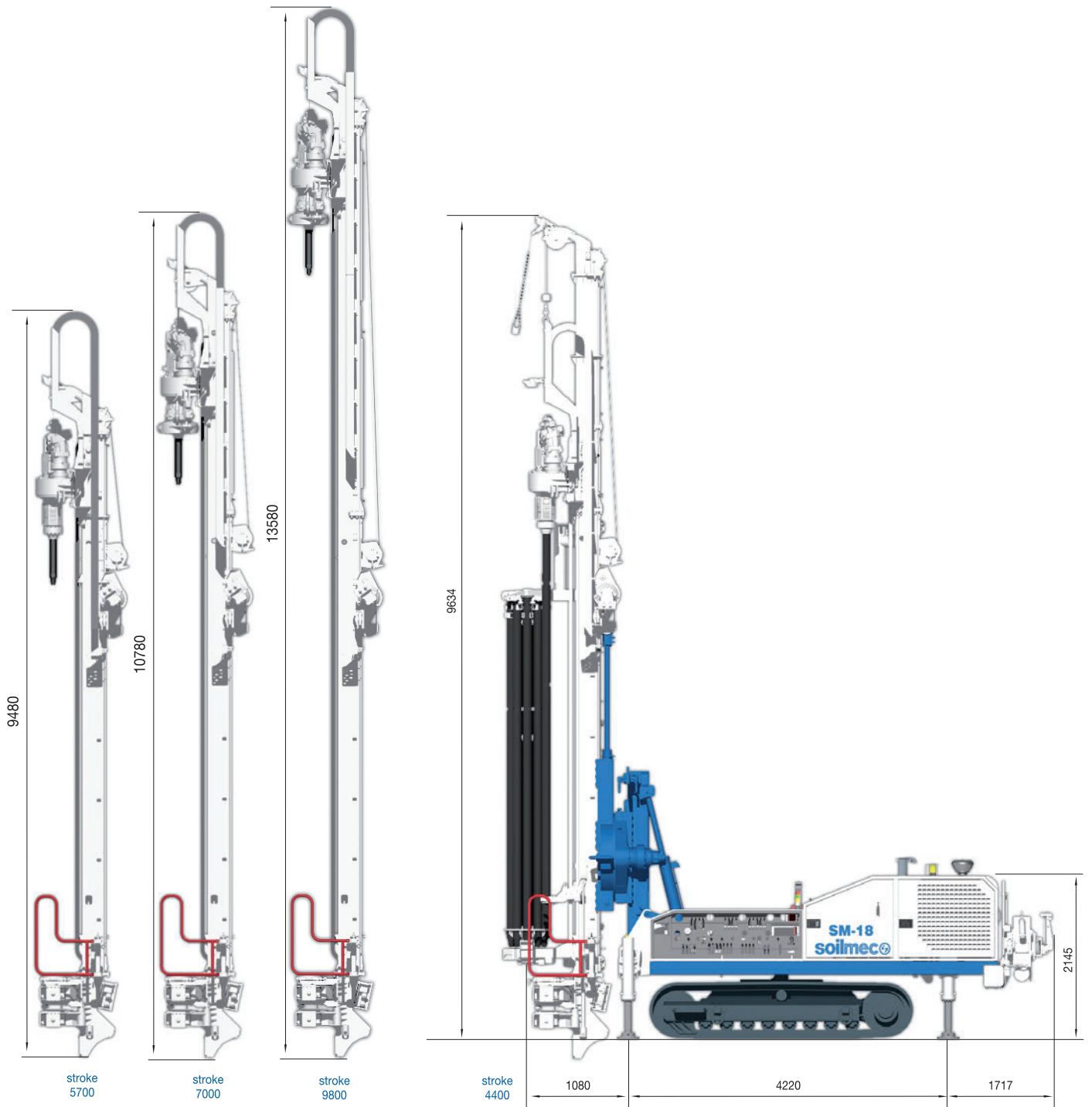
Hydraulic Microdrilling Rig

SM-18



soilmec 
Drilling and Foundation Equipment

SM-18 APPLICATIONS



Hoist & Feed system	Motoreducer	Motoreducer	Motoreducer	Motoreducer	Motoreducer (opt.)	Motoreducer (opt.)	Motoreducer (opt.)	Motoreducer (opt.)
Feed stroke	4400 mm	173.2 in	5700 mm	224.4 in	7200 mm	283.5 in	9800 mm	385.8 in
Rod length type (c/w one rotary head)	3 m	9.8 ft	4.5 m	14.8 ft	6 m	19.7 ft	9 m	29.5 ft
Maximum hoist pull/feed force	113 / 113 kN	25403 / 25403 lbf	113 / 113 kN	25403 / 25403 lbf	113 / 113 kN	25403 / 25403 lbf	90 / 90 kN	20232 / 20232 lbf
Maximum speed (fast/low operation)	51 / 15 m/min	167 / 49 ft/min	51 / 15 m/min	167 / 49 ft/min	51 / 15 m/min	167 / 49 ft/min	51 / 15 m/min	167 / 49 ft/min
Rotary head range	R1200G	R1200G	R1700V	R1700V	R2000V	R2000V	R3700V	R3700V
Gear box type	4 gears	4 gears	Variable	Variable	Variable	Variable	Variable	Variable
Maximum torque	1175 daNm @ 76 rpm	8666 lb*ft @ 76 rpm	1740 daNm @ 67 rpm	12834 lb*ft @ 67 rpm	2025 daNm @ 57 rpm	14936 lb*ft @ 57 rpm	3659 daNm @ 32	26987 lb*ft @ 32
Maximum drilling speed	300 rpm	300 rpm	208 rpm	208 rpm	179 rpm	179 rpm	127 rpm	127 rpm
Inner passage	144 mm	5.7 in	144 mm	5.7 in	144 mm	5.7 in	144 mm	5.7 in
Max tools power (Max Power on rotary)	93 kW	125 HP	121 kW	162 HP	121 kW	162 HP	121 kW	162 HP

SM-18 TECHNICAL DATA SHEET

Operating weight (approx.)	19900 kg	43872 lb
Undercarriage		
Track shoe width	500 mm	19.7 in
Wheel base (centre idler to centre sprocket)	2750 mm	108.3 in
Overall length	3471 mm	136.7 in
Overall width (not extendable crawler)	2500 mm	98.4 in
Travelling speed	2,54 km/h	1.58 mph
Max climbing capacity (gradeability)	68 % (34°)	68 % (34°)
Average ground pressure	0,069 MPa	10 psi
Ground stabilizers	n° 2 telescopic on front + n° 2 fixed on rear	n° 2 telescopic on front + n° 2 fixed on rear
Tail swing radius	2930 mm	115.4 in
Diesel Engine	DEUTZ TCD 2013 L06 2V	DEUTZ TCD 2013 L06 2V
Emission certification	EU 97/68/CE Stage 3A - US EPA Tier 3	EU 97/68/CE Stage 3A - US EPA Tier 3
Aspiration	supercharged after liquid cooled	supercharged after liquid cooled
Power rating	176 kW @ 1900 rpm	236 HP @ 1900 rpm
Fuel tank capacity	300 l	79 US gal
Sound power level and sound pressure level	LwA 110 - LpA 90 dB(A)	LwA 110 - LpA 90 dB(A)
Hydraulic system		
Main pumps: variable axial pumps	266 + 266 l/min	70.3 + 70.3 US gal/min
Set pressure main pumps	30 MPa	4351 psi
Auxiliary pumps: gear pumps	65 + 72 + 17 + 108 l/min	17.2 + 19 + 4.5 + 28.5 US gal/min
Hydraulic oil tank capacity	560 l	148 US gal
Clamp & guide		
Nominal size	up to 60-415 mm	up to 2.4-16.3 in
Maximum clamping force	266 kN	59798 lbf
Maximum breaking torque	5060 daNm	37321 lbf*ft
Service winch		
Type	controlled descent	controlled descent
1st layer line pull	24 kN	5395 lbf
1st layer nominal rope speed	60 m/min	197 ft/min
Rope diameter	10 mm	0.39 in
Rope capacity / Rope fitted	46 / 40 m	151 - 131 ft
Rod carousel		
N. of rods	5 - 10	5 - 10
Rod diameter	90 - 76 - 114 - 140 mm	3.5 - 3 - 4.5 - 5.5 in
Rod length	3 - 4,5 m	118.1 - 177.1 ft

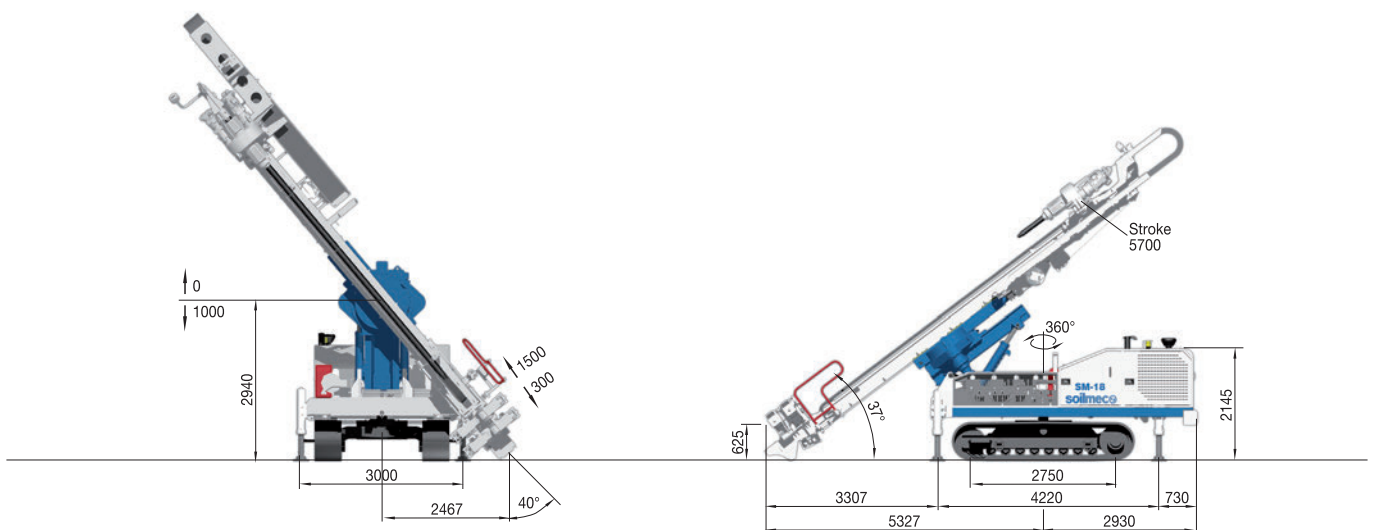
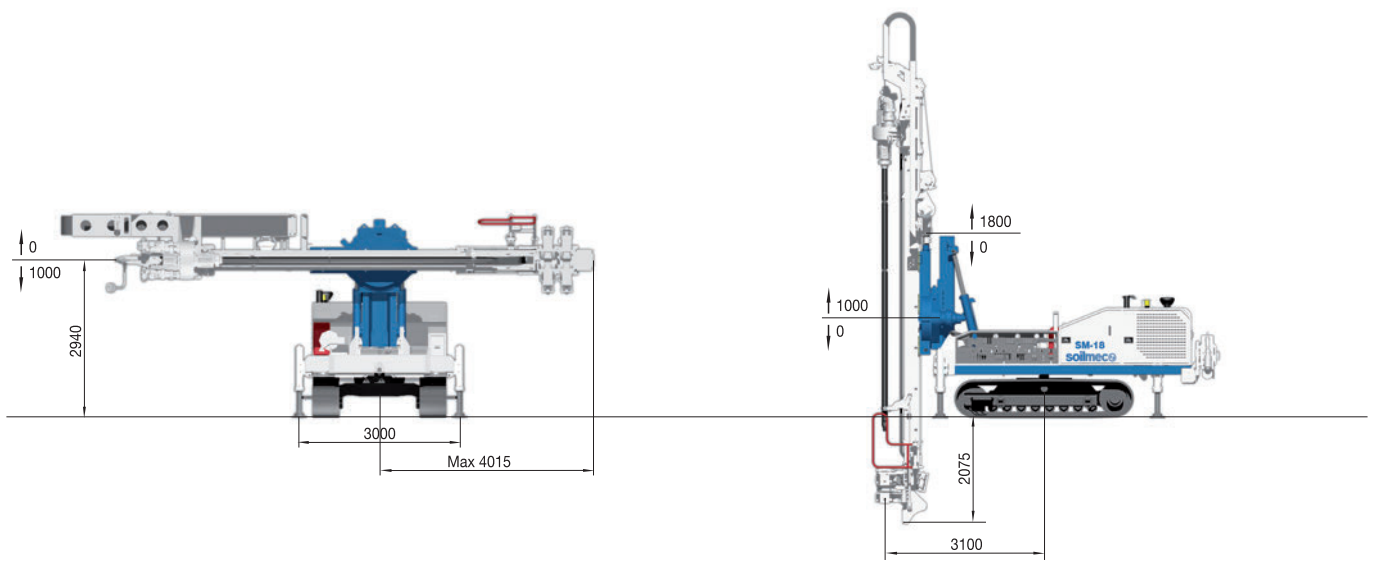
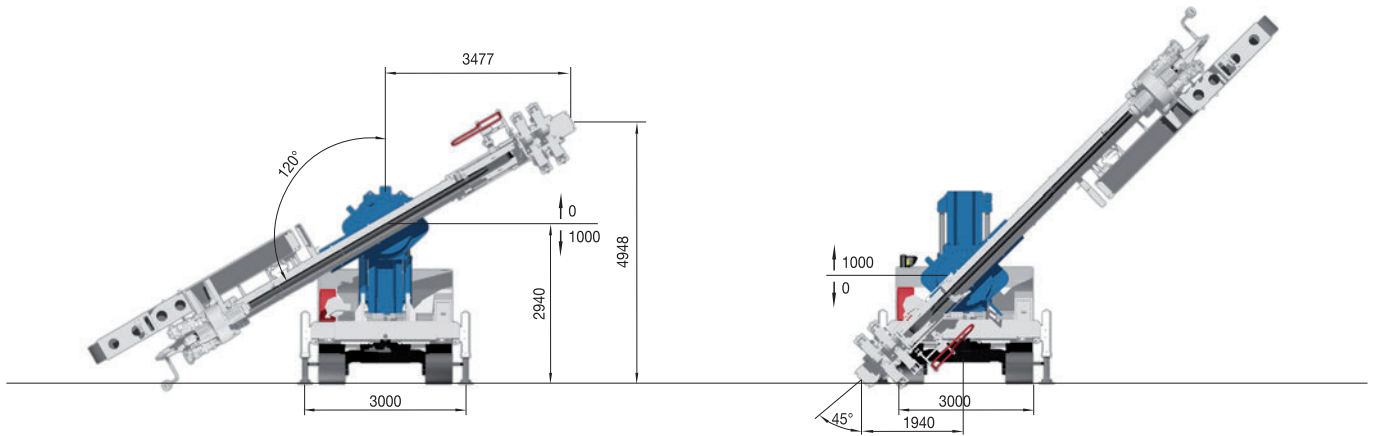
STANDARD EQUIPMENT

- Fixed steel undercarriage with slew ring for 360°
- The controls of all operation are hydraulic and proportional
- Remote control board of each functions for finding the best working position in any condition
- Clamp and breaker 50-315 mm
- Noise reduction
- Kinematic mechanism:
- Fixed articulation on main frame
- Rising cylinders for 95° rotation angle
- Sliding position of the drillguide axis rotation variable, 1000 mm stroke
- Slew ring for mast rotation
- Mast Counter slide with 1800 mm stroke
- Innovative emergency stop for drilling functions, safety light for active drilling mode, telescopic counterweight and telescopic stabilizer for
- increased stability, easier maintenance c/w faster fault checks
- Variable speed or 4-speeds gear box rotary head
- Twin rotaries or Overburden drilling system
- Vibratory or Sonic applications
- Reverse circulation
- Load Sensing hydraulic system with 2 main pumps
- Air/water system and line lubrication for DTH

OPTIONAL EQUIPMENT

- Jet Grouting: over 20 m depth in single step with a fully guided feed swivel and 50 m automatic depth using rod handler
- Rod carousel:
 - n. 10 rods: max diameter 114 mm L = 3 m
 - n. 5 rods: max diameter 140 mm L = 3/4,5 m
- Special rod handler version for reducing the handling time with mechanical handler and breaker mechanism and special rod design
- Auxiliary pump for water, cement, foam can be selected and combined
- Drill guide with several stroke: 4,4 m - 5,7 m - 7 m or 9,8 m (long stroke)
- CFA and pre-bore kit
- Foam pump
- Water and mud pump
- Hydraulic control for drilling operations
- Radio remote control for tramming and positioning
- Double rotary kit
- Mast kit extension up to 7200 mm stroke
- Full radio remote control

SM-18 MOVIMENTATIONS



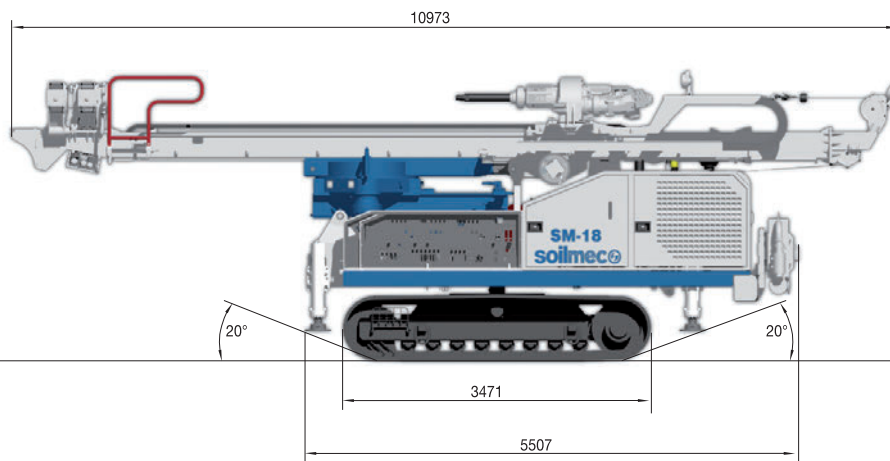
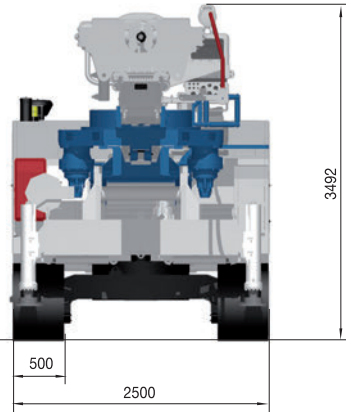
SM-18 JET GROUTING



JET GROUTING VERSION		
Rod diameter	140 mm	5.51 in
Max treatment depth in a single passage	20,4 m	67 ft
Drillguide extensions	6 + 10 m	19.7 + 32.8 ft

SM-18 Hydraulic Microdrilling Rig

TRANSPORT, DIMENSIONS AND WEIGHTS



Transport configuration		
Length	9909 mm	390.1 in
Width	2500 mm	98.4 in
Height	3492 mm	137.5 in
Weight	19500 kg	42990 lb

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