

SM-5

ANCHORING
TIE-BACKS
MICROPILES
JET GROUTING
CORING
WATER WELL
TUNNELING



Hydraulic Microdrilling Rig **SM-5**



DEUTZ TCD 2011 L04 W		
Power rating @ 2300 rpm	71,2 kW	96 HP
Operating weight (approx)	5600 kg	12345 lbs
Feed / retraction force	40 kN	8992 lbs
Min head room	< 3m	< 9.84 ft



SAFETY

Designed to comply with EN and ISO safety standards.

- SM5 is manufactured, tested and certified to give maximum operator protection
- Hydraulic board control and remote board control (this latter on request) are designed to operator comfort and ease of use.
- Built-in safety devices in order to reduce any possible accidental operation.
- Operator's view is increased to give a better visibility and guarantee the maximum safety condition.
- Easily and safely accessible bonnet for maintenance and inspection
- Reduced environmental impact with lower noise levels, reduction in exhaust emissions and improved fuel economy.

PERFORMANCES

- Versatile multipurpose rig for a wide range of possible civil engineering applications.
- The use of powerful engines, high standard components and advanced circuit design has enabled Soilmec to increase performance and reliability also under extreme conditions.
- Range of high performance rotaries available.
- The choice of different combinations of mast length makes the rig easily adaptable to several headroom conditions ranging between 3320-4320mm
- Smart and compact design for fast assembly and easy transport.
- Minimum operating cost.

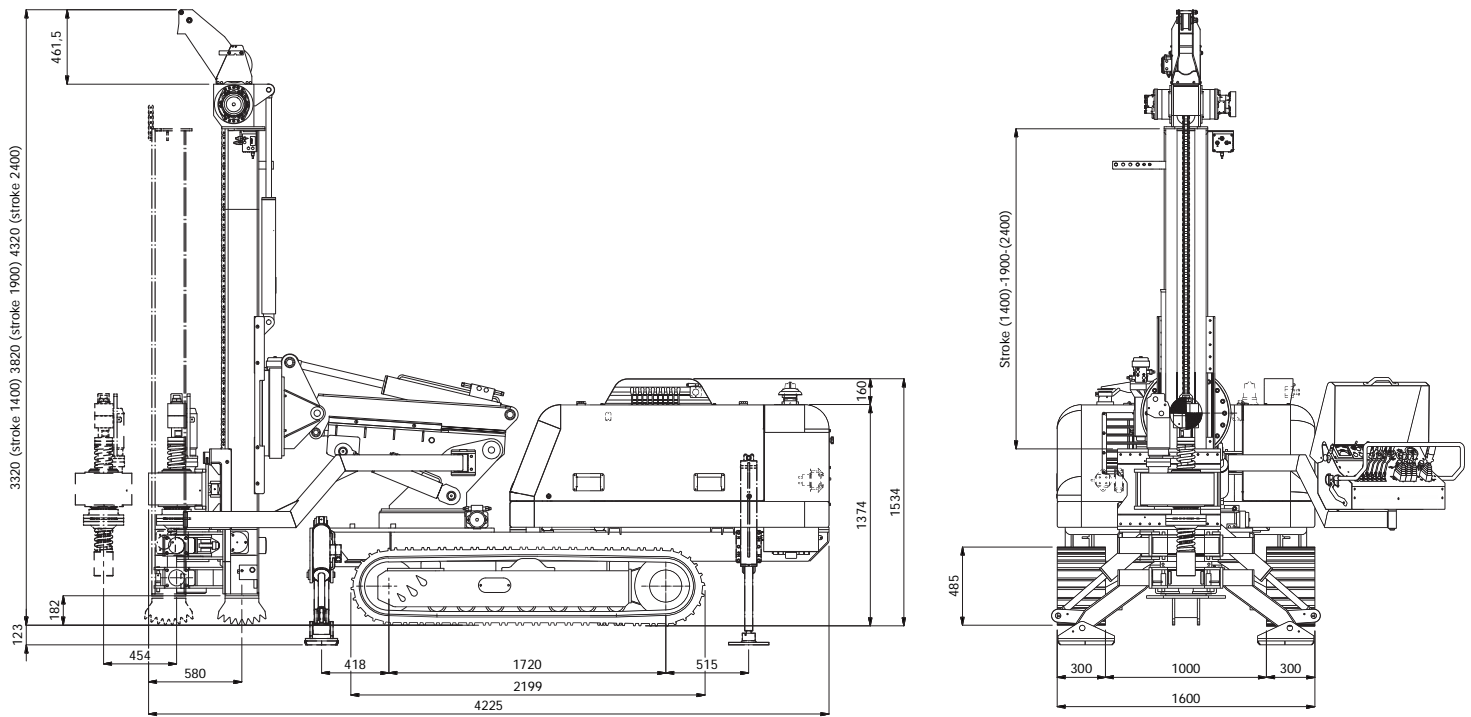
QUALITY

- Each micro drilling rig is subject to extensive testing prior to dispatch.
- Soilmec Quality System complying with ISO 9001:2000 and ISO 14001:2004 standards.
- Low maintenance requirements thanks to components of the highest quality.
- Soilmec constant support thanks to quick acting after sales service, reliable customer care, efficient spare parts service and fast delivery.

The Soilmec advantage

- A real multifunctional machine designed from scratch to give you the best drilling solution
- Long life expectancy with a high residual value
- Best price/performance ratio
- Built with the customer in mind

VERTICAL WORKING CONDITION



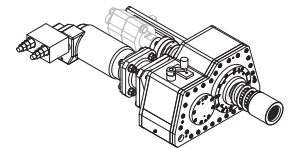
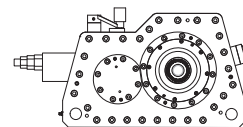
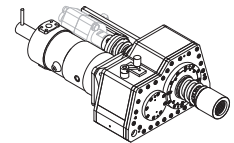
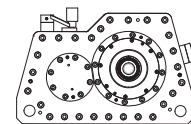
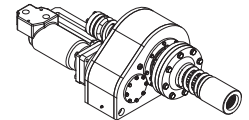
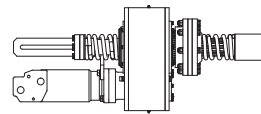
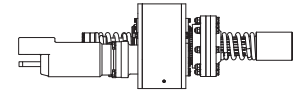
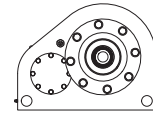
TECHNICAL DATA

Operating weight :	5.600 kg			12345 lbs		
Hydraulic Rotary head						
Reccomended: HR9F - HR6F - HR7G - HR8G						
Hoist & feed system (modular)						
Rod lenght type (c/w one rotary head)	2 m	1,5 m	1 m	6.5 ft	4.9 ft	3.2 ft
Feed type	Hydraulic motor*			Hydraulic motor*		
Feed stroke	2400 mm	1900 mm	1400 mm	95 in	75 in	55 in
Maximum hoist pull	40 kN	40 kN	40 kN	8992 lbs	8992 lbs	8992 lbs
Maximum feed force	40 kN	40 kN	40 kN	8992 lbs	8992 lbs	8992 lbs
Maximum speed	36 m/min	36 m/min	36 m/min	118.11 ft/min	118.11 ft/min	118.11 ft/min
Maximum permissible torque	2000 daNm	2000 daNm	2000 daNm	14750 lb.ft	14750 lb.ft	14750 lb.ft
Service winch						
Line pull (1st layer):	6 kN	6 kN	6 kN	1348 lbs	1348 lbs	1348 lbs
Rope diameter:	6 mm	6 mm	6 mm	0,23 in	0,23 in	0,23 in
Clamp & Hydraulic joint breaker						
Nominal size	50-220 mm	50-220 mm	50-220 mm	1.96-8.66 in	1.96-8.66 in	1.96-8.66 in
Maximum clamping force	140 kN	140 kN	140 kN	31472 lbs	31472 lbs	31472 lbs
Maximum breaking torque	3000 daNm	3000 daNm	3000 daNm	22126 lb.ft	22126 lb.ft	22126 lb.ft
Jet grouting						
Rod diameters	90 mm	90 mm	90 mm	3.54 in	3.54 in	3.54 in
Max treatment depth in single pass	7,3 m	7,3 m	7,3 m	24 ft	24 ft	24 ft
Drillguide extensions	6 m	6 m	6 m	19.6 ft	19.6 ft	19.6 ft

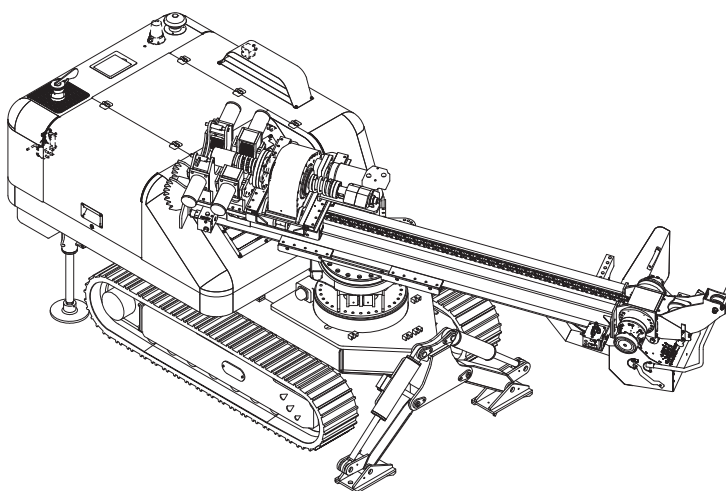
*cylinder crowd system is available on request

TECHNICAL DATA ROTARY DRIVE

HR9F		
Type	fixed displacement	<i>fixed displacement</i>
Max Torque	972 daNm	<i>7170 lb.ft</i>
Max Speed	98 rpm	<i>98 rpm</i>
Hollow Shaft	114 mm	<i>4,5 in</i>
Max Pressure Difference	25 MPa	<i>250 bar</i>
Max Flow Rate	120 l/min	<i>32 US gal/min</i>
HR6F		
Type	fixed displacement	<i>fixed displacement</i>
Max Torque	687 daNm	<i>5066 lb.ft</i>
Max Speed	138 rpm	<i>138 rpm</i>
Hollow Shaft	114 mm	<i>4,5 in</i>
Max Pressure Difference	25 MPa	<i>250 bar</i>
Max Flow Rate	120 l/min	<i>32 US gal/min</i>
HR7G		
Type	6 gear box	<i>6 gear box</i>
Max Torque	696 daNm	<i>5133 lb.ft</i>
Max Speed	862 rpm	<i>862 rpm</i>
Hollow Shaft	66 mm	<i>2.60 in</i>
Max Pressure Difference	26 MPa	<i>260 bar</i>
Max Flow Rate	80 l/min	<i>21.13 US gal/min</i>
HR8G		
Type	4 gear box	<i>4 gear box</i>
Max Torque	823 daNm	<i>6070 lb.ft</i>
Max Speed	220 rpm	<i>220 rpm</i>
Hollow Shaft	66 mm	<i>2.60 in</i>
Max Pressure Difference	25 MPa	<i>250 bar</i>
Max Flow Rate	120 l/min	<i>32 US gal/min</i>






Standard Equipment



- Rotary drive HR9F type
- Clamp and breaker 50-220 mm
- Slew ring for mast rotation of +/- 180°
- Telescopic boom and sliding mast
- Service winch
- Foam pump
- Prearrangement for remote radio control
- Prearrangement for mud pump
- Line Lubrifier
- Controls actuate from a hydraulic panel assembled on pivotal support arm

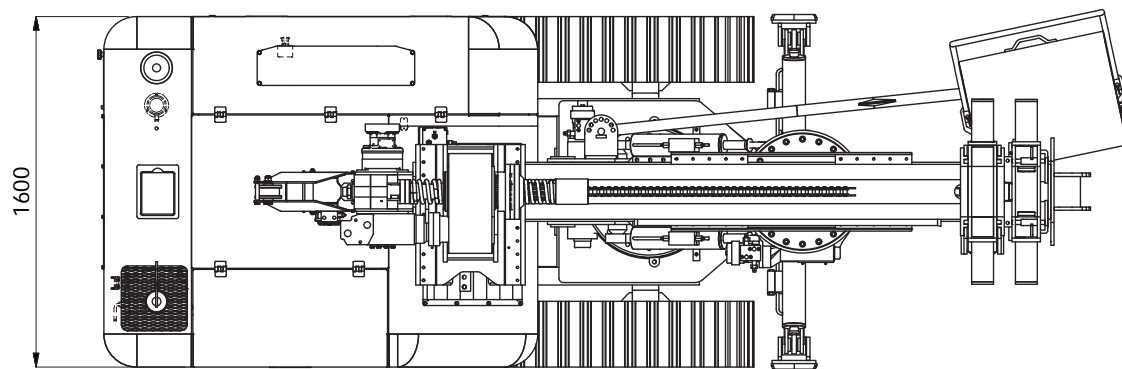
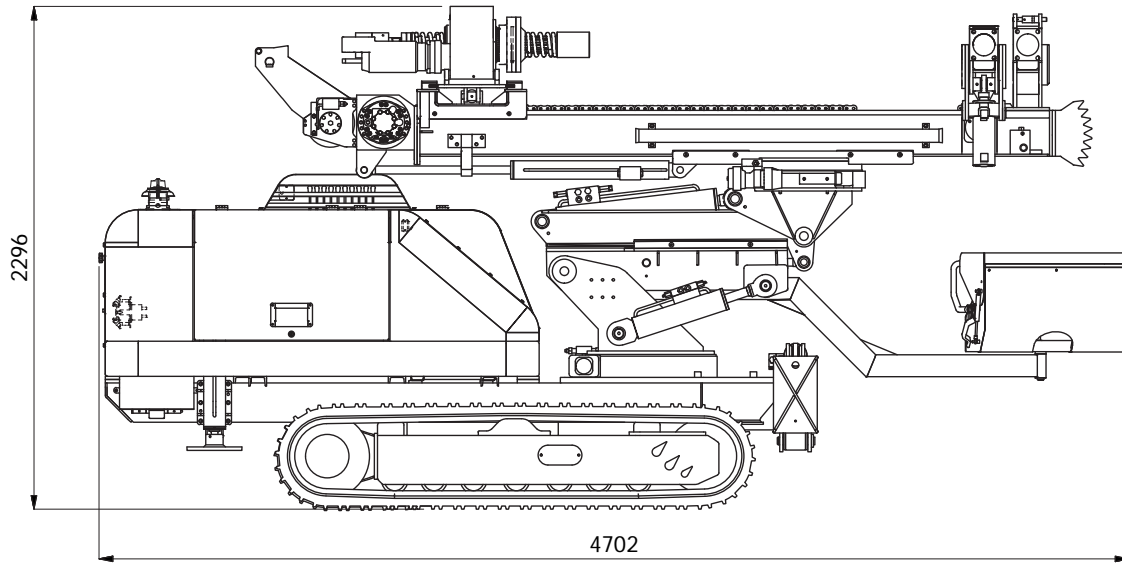
TECHNICAL DATA



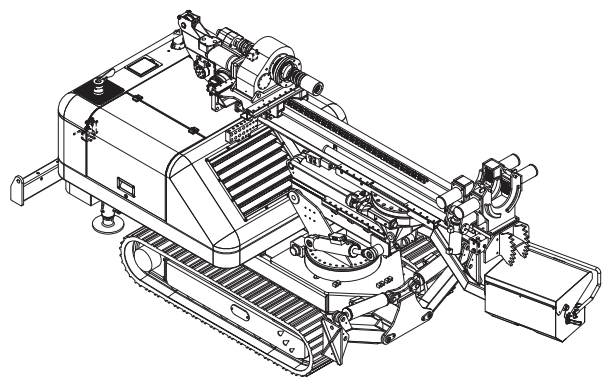
	Engine	TCD2011-L04 W Deutz	TCD2011-L04 W Deutz
	Rated output ISO 3046-I	71,2 kW @ 2300 rpm	96 HP @ 2300 rpm
	Engine conforms to Exhaust emission Standard	UE Stage IIIA - EPA nonroad Tier 3	UE Stage IIIA - EPA nonroad Tier 3
	Diesel tank capacity	75 l	19,8 US gal
	Sound pressure level	90 dB (A)	90 dB (A)
	Sound power level	115 dB (A)	115 dB (A)
	Hydraulic system		
	Main pumps: variable axial pumps L.S.	145 l/min	38,3 US gal/min
	Set pressure main pumps	28 Mpa	280 bar
	Auxiliary pumps: gear pumps	78+37+32 l/min	20+9+8.4 US gal/min
	Hydraulic oil tank capacity	230 l	60.7 US gal
	Undercarriage (not extendable crawler)		
	Chain class and pitch	steel	steel
	Track shoe width	300 mm	11.8 in
	Overall length	2200 mm	86,6 in
	Overall width	1600 mm	62,9 in
	Traction force	40,2 kN	9037 lbs
	Travelling speed	1,6 km/h	0,99 mi/h
	Average ground pressure	0,053 Mpa	0,53 bar



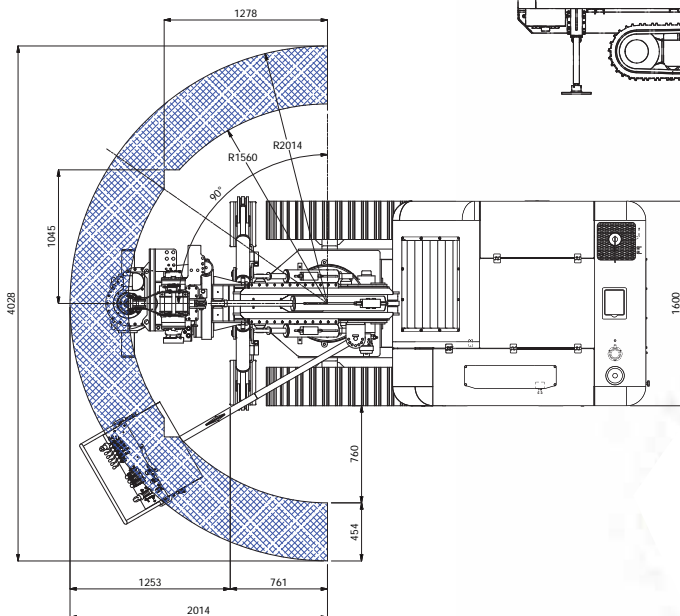
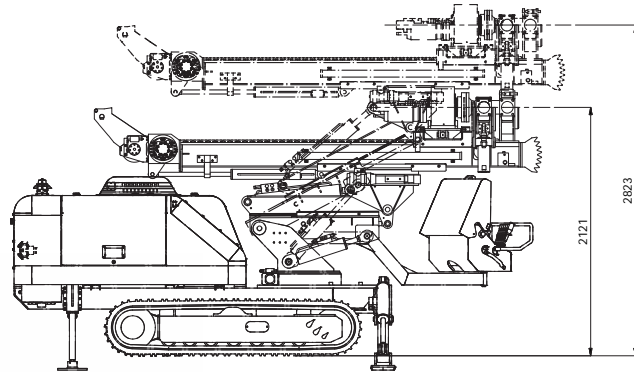
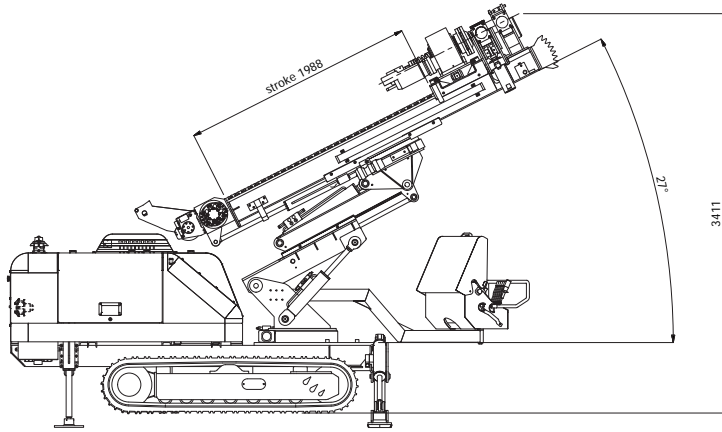
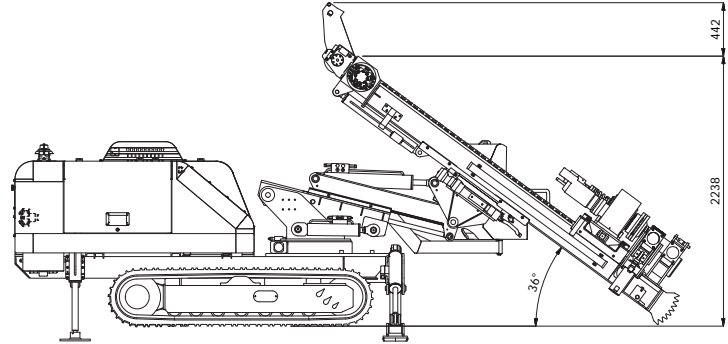
TRANSPORT DATA

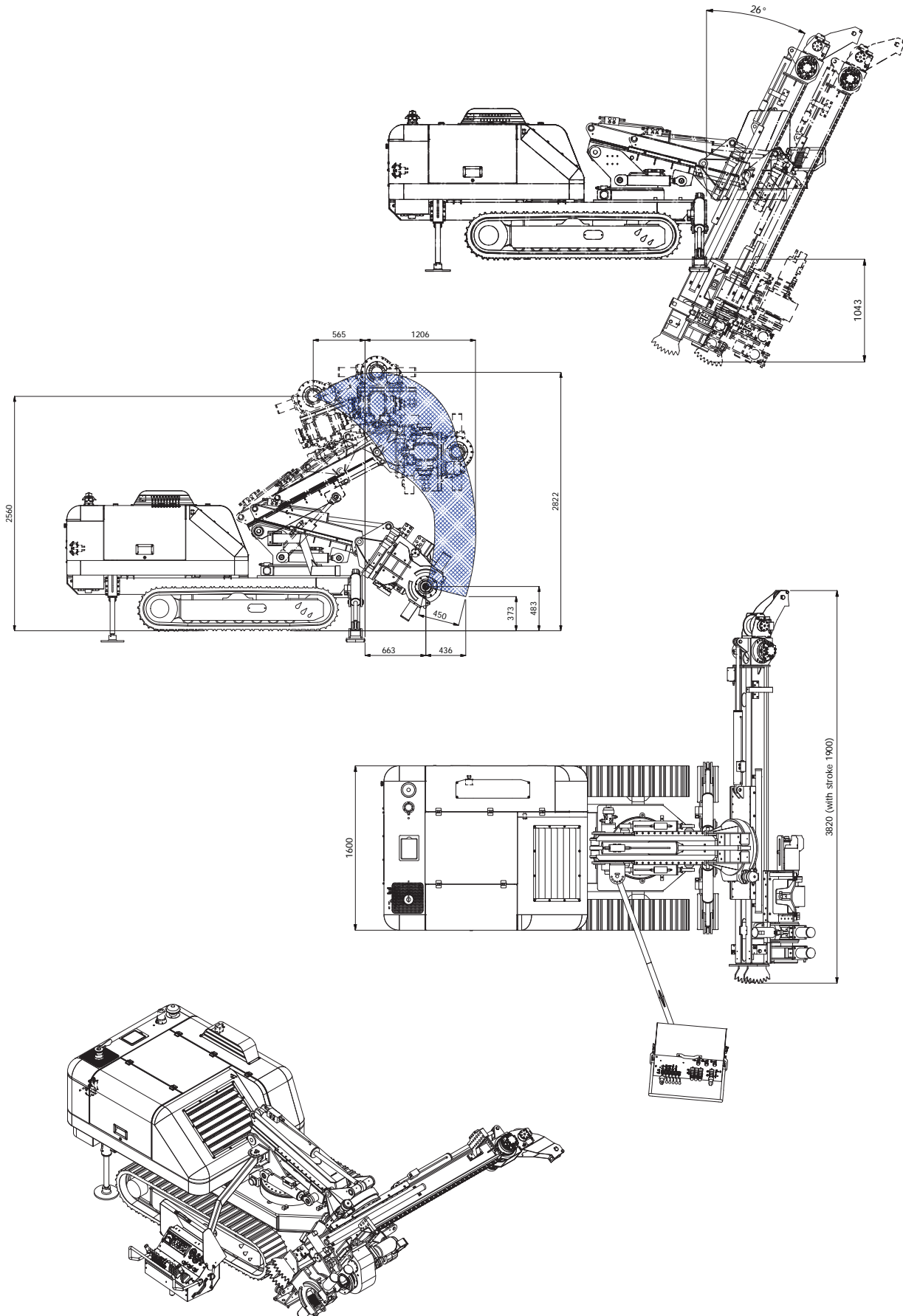


Mass & Transport		
Transport width	1600 mm	63 in
Transport height	2300 mm	90.55 in
Transport length	4700 mm	185 in
Transport weight	5600 kg	12345 lb



WORKING MOVMENTS







ROTARY

Soilmec rotaries, designed and manufactured to meet the need for increased production and performance on various applications, with the added benefit of increased component life and reliability.



FOAM PUMP

Easily accessible and high performance foam pump already incorporated in the SM5, as well as the new line lubricator c/w tank (capacity 6 l). Prearrangement for mud pump also included. The new lubricator system ensures the right amount of lube oil independently from viscosity.

In alternative a triplex mud pump (110/ min@35 bar – 29 US gal/min@35 bar) is available to fit on board.



CLAMP AND BREAKER ASSEMBLY

c/w new high-quality flow division

Hydraulic clamping and breaking device for drill tubes up to 220mm (8,66 in).

Maximum clamping force kN 140 (lbs 31473).

Maximum breaking torque daNm 3000 (lb/ft 22126).



The new special kinematic mechanism, comprising by two slew rings, allows a large range of slewing and mast positioning possibilities.

The first slew ring fitted on base machine enables drilling parallel to the tracks up to +/- 90°.

The second kinematic system allows to achieve an overall mast rotation equal to +/- 180°.

In order to increase the versatility of the drilling unit, SM5 is equipped with telescopic boom and sliding mast.



All controls are conveniently located for easy operation.

The rig is fitted with different types of controls:

- Drilling operations are actuated by means of a hydraulic/proportional panel on pivotal support arm, connected to the machine.
- rig tramming operated by electrical table



- No. 4 stabilizers, kinematic system (mast rotation, sliding and rising, telescopic boom) are actuated by means of a hydraulic/proportional panel on base carrier

The SM5 is already prearranged for remote radio control panel and on request the remote radio control may be installed.



The SM5 multipurpose drilling rig has been specially designed to suit different works in reduced space conditions.

Thanks to its special and optimized tilting system and the range of drilling rotary heads, SM5 is particularly suitable for the following applications:

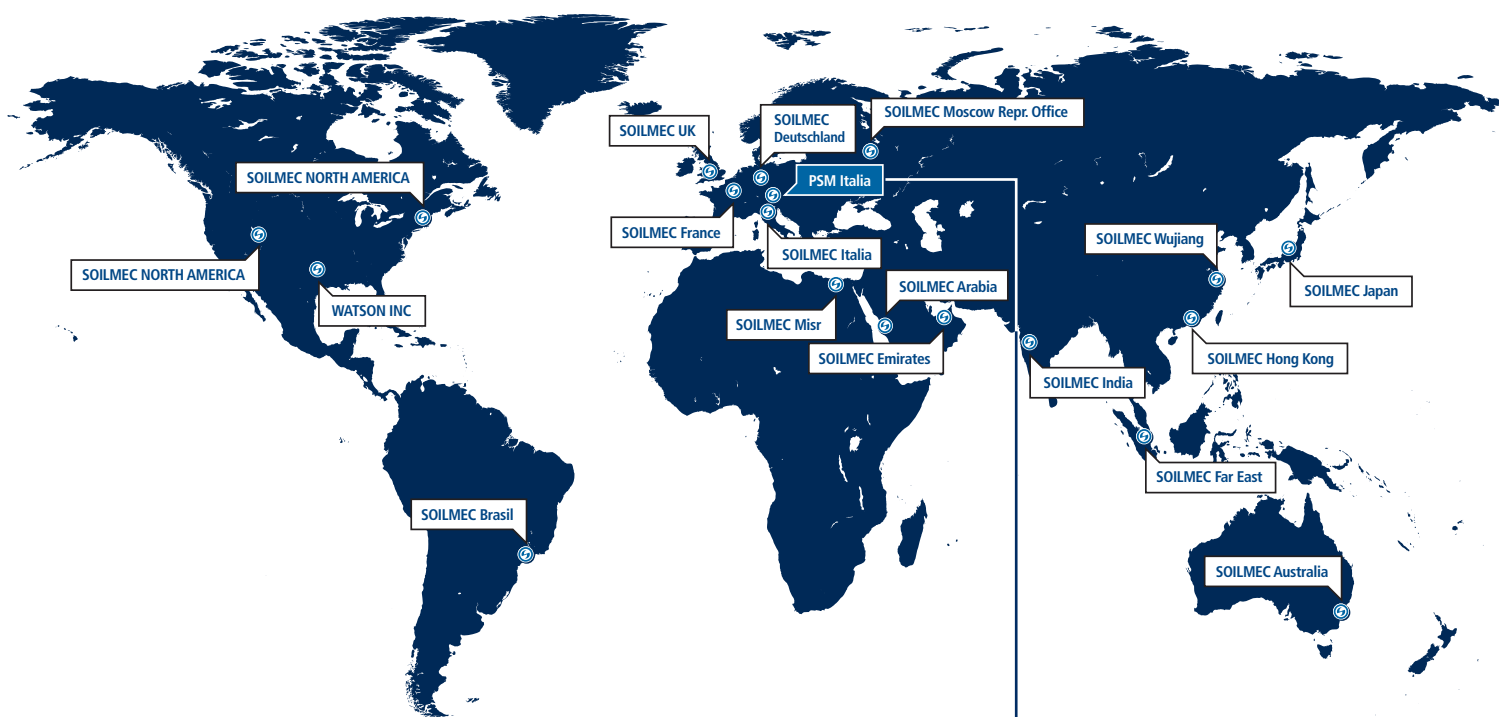
- Anchoring
- Tie-backs
- Micropiles
- Jet grouting
- Coring
- Water well
- Tunneling

Global Presence

SOILMEC distributes machinery and structures all over the world, supported by SOILMEC subsidiary companies and dealers. The complete Soilmec network list is available on the webpage www.soilmec.it

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