



SR-series

LDP
CFA
DW
MP

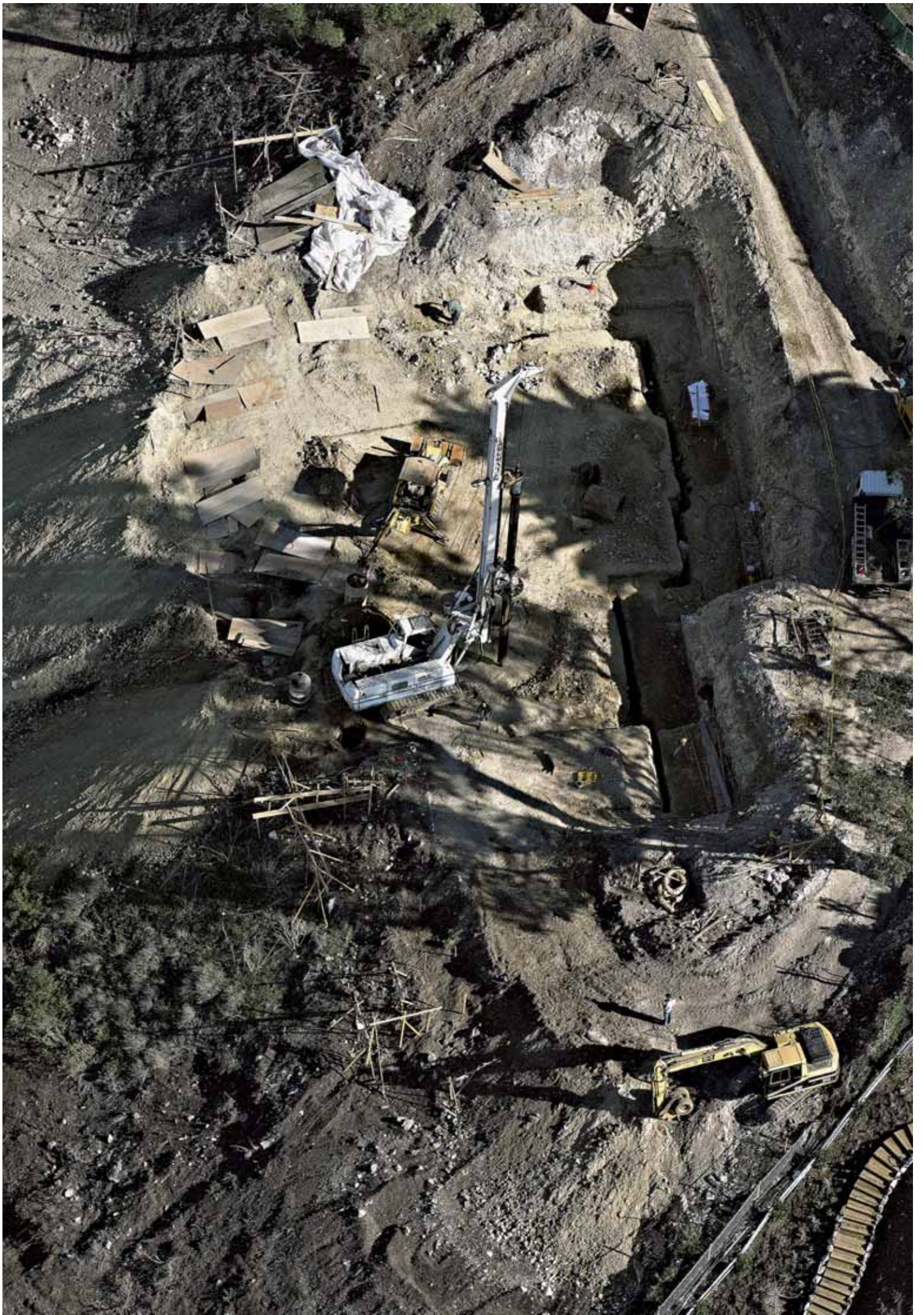


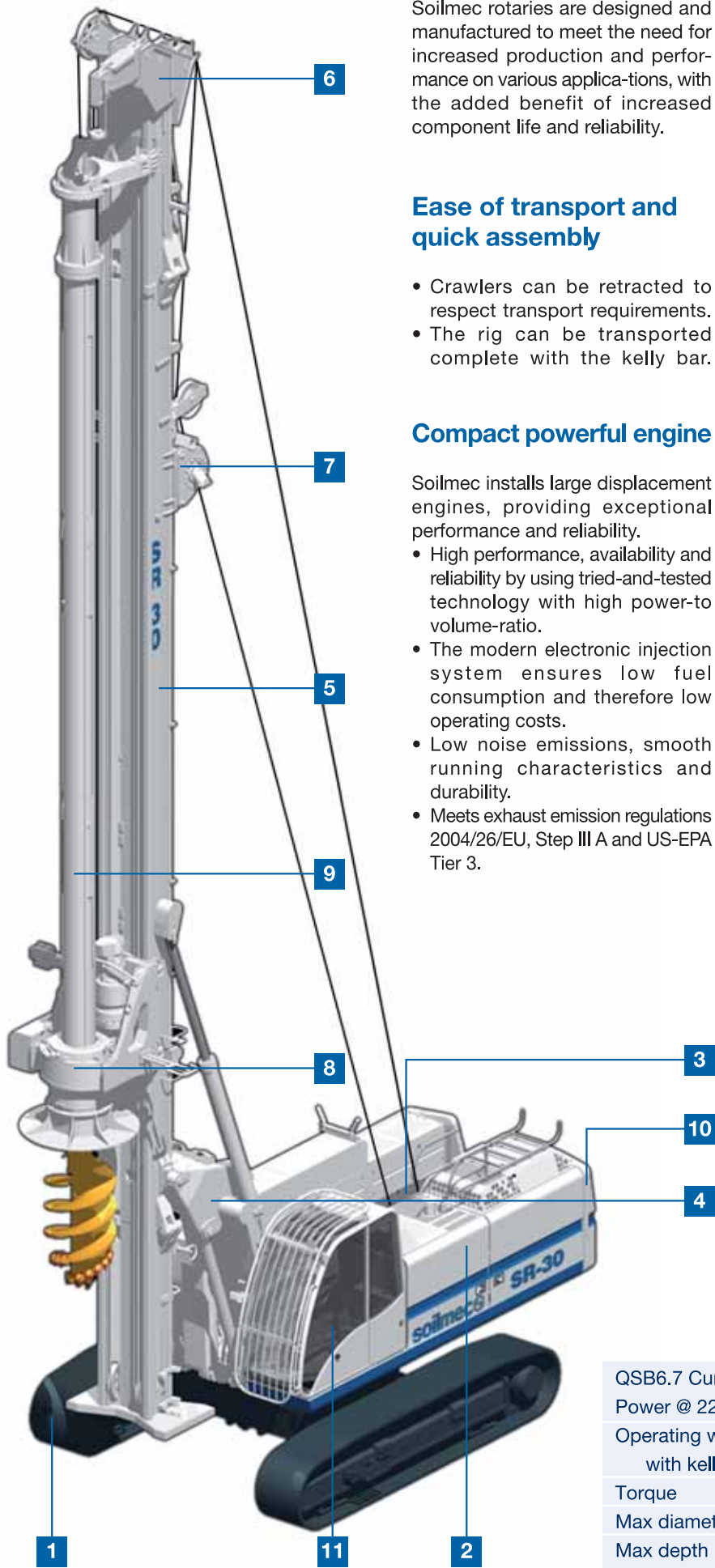
soilmecc

Hydraulic Rotary Rig

SR-30

soilmecc 
Drilling and Foundation Equipment





Rotary

Soilmec rotaries are 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.

Ease of transport and quick assembly

- Crawlers can be retracted to respect transport requirements.
- The rig can be transported complete with the kelly bar.

Compact powerful engine

Soilmec installs large displacement engines, providing exceptional performance and reliability.

- High performance, availability and reliability by using tried-and-tested technology with high power-to-volume-ratio.
- The modern electronic injection system ensures low fuel consumption and therefore low operating costs.
- Low noise emissions, smooth running characteristics and durability.
- Meets exhaust emission regulations 2004/26/EU, Step III A and US-EPA Tier 3.

DMS control system

DMS is an innovative system, developed by Soilmec, which controls and monitors the operation of the machine. For ease of operation the system is controlled by a touch screen located in the cab. The system main function, with the enhanced electro-hydraulic proportional technology, is to enable the machine to perform different functions more efficiently.

A dedicated power module electronic control system ensures the main pumps and diesel engine work at their most effective and productive levels.

Ergonomic design

The cab is designed to be spacious, quiet and comfortable for the operator, assuring high productivity throughout the working day. Controls are conveniently located for easy operation.

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.

- 1 Undercarriage
- 2 Turret
- 3 Winch
- 4 Parallelogram system
- 5 Self-erecting mast
- 6 Cathead
- 7 Crowd system
- 8 Rotary head
- 9 Telescopic kelly bar
- 10 Counterweight
- 11 Cab

QSB6.7 Cummins		
Power @ 2200 rpm	164 kW	220 HP
Operating weight (approx)		
with kelly 4x9 (m.l.)	36.350 kg	80354 lb
Torque	130 kNm	95881 lb.ft
Max diameter	1.500 mm	59 in
Max depth	49,3 m	161.7 ft

LDP - KELLY DRILLING SYSTEM

Crowd Winch Version

The hydraulic drilling rig SR-30 has been specially designed for suiting the following applications:

- **cased bored piles** with casing driven directly through rotary head or optionally by casing oscillator powered by the base carrier itself;
- **deep uncased bored piles** stabilized by drilling fluid or dry hole;
- **CFA (Continuous Flight Auger) piles** by means of long auger string;
- it can be converted into **DW diaphragm wall base machine** to work with a **guided grab (GK-5)**;
- **MP micropiling** kit available.



DMS - Drilling Mate System

The SR-90 in kelly version is equipped with the DRILLING MATE SYSTEM (DMS) on 12" touch screen to monitor and control of the operating parameters. The standard DMS equipment is composed of:

- **PLC** controller for all electrically actuated functions
- fault checking and reporting
- monitor unit designed to display:

- engine information and diagnostic capability
- pump pressures
- mast verticality
- drilling depth
- rotary speed and pressure
- crowd pressure
- graphics drilling charts

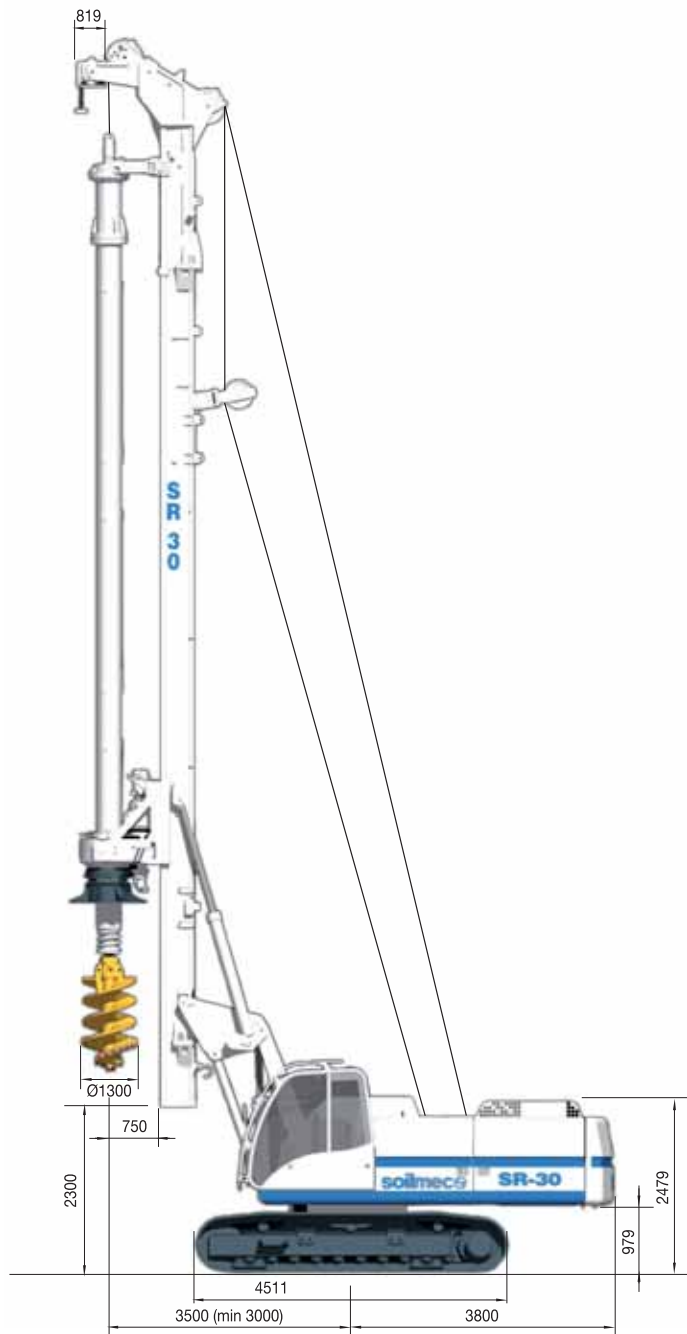
The following additional optional features are available:

- automatic turret hole centering
- automatic mast verticality

- recording of operating data on memory card
- DMS PC software package to analyze and print production data and job site daily reports
- DMS MANAGER for remote control and transmission of process and operating data and tele assistance

LDP - KELLY DRILLING SYSTEM

Crowd Cylinder Version



Crowd cylinder version



Crowd cylinder version

TECHNICAL DATA

	Crowd cylinder		Crowd winch		
Overall height	18.046 mm	710.5 in	17.888 mm	704.2 in	
Operating weight (approx) with kelly 4x9 m	36.350 kg	80354 lb	39.450 kg	86971 lb	
Rotary Drive - Spinoff type	RD-130		RD-130		
	-Torque (nominal)	130 kNm	95881 lb _f ft	130 kNm	95881 lb _f ft
	-Speed of rotation (max)	39 rpm	39 rpm	39 rpm	39 rpm
	-Spinoff speed	143 rpm	143 rpm	143 rpm	143 rpm
Rotary Drive - Shifting gear type	RD-130 G		RD-130 G		
	-Torque (nominal)	130 kNm	95881 lb _f ft	130 kNm	95881 lb _f ft
	-Speed of rotation (max)	60 rpm	60 rpm	60 rpm	60 rpm
	-Spinoff speed	106 rpm	106 rpm	106 rpm	106 rpm
Crowd system	-Crowd force (pull down/up)	101/124 kN	22705/27876 lb _f	200/200 kN	44961/44961 lb _f
	-Stroke (kelly system)	3.500 mm	138 in	11.800 mm	464 in
	-Stroke (CFA system)	14.000 mm	551 in	13.000 mm	512 in
	-Speed (down/up)	5,7/7,4 m/min	18.7/24.2 ft/min	2,8/2,8 m/min	9.1/9.1 ft/min
	-Fast speed (down/up)	n.a.	n.a.	7,5/7,5 m/min	24.6/24.6 ft/min
	Main winch SW-140	controlled descent	<i>controlled descent</i>	controlled descent	<i>controlled descent</i>
-Line pull (1st layer) effective/nominal		113/135 kN	25403/30349 lb _f	113/135 kN	25403/30349 lb _f
-Rope diameter/lenght		22 mm/84 m	0.8 in/276 ft	22 mm/84 m	0.8 in/276 ft
-Line speed (max.)		78,5 m/min	258 ft/min	78,5 m/min	258 ft/min
Auxiliary winch SW-70	controlled descent	<i>controlled descent</i>	controlled descent	<i>controlled descent</i>	
	-Line pull (1st layer) effective/nominal	54/65 kN	12139/14612 lb _f	54/65 kN	12139/14612 lb _f
	-Rope diameter	18 mm	0.7 in	18 mm	0.7 in
	-Line speed (max.)	58 m/min	190 ft/min	58 m/min	190 ft/min
Auxiliary winch SF-70 (optional)	free fall	<i>free fall</i>	free fall	<i>free fall</i>	
	-Line pull (1st layer) effective/nominal	54/65 kN	12139/14612 lb _f	54/65 kN	12139/14612 lb _f
	-Rope diameter	18 mm	0.7 in	18 mm	0.7 in
	-Line speed (max.)	68 m/min	223 ft/min	68 m/min	223 ft/min
Mast inclination	-Backward/forward/lateral	12/4/3°	12/4/3°	12/4/3°	12/4/3°

Standard equipment

- Rotary drive spin off type
- Main winch controlled descend type
- Main and auxiliary winch with special grooving
- Hoist limit switch on main and auxiliary winches
- Swivel for main rope
- Crowd in fast or slow mode
- Pivoted anchor points for main and auxiliary ropes

Measuring and control equipment

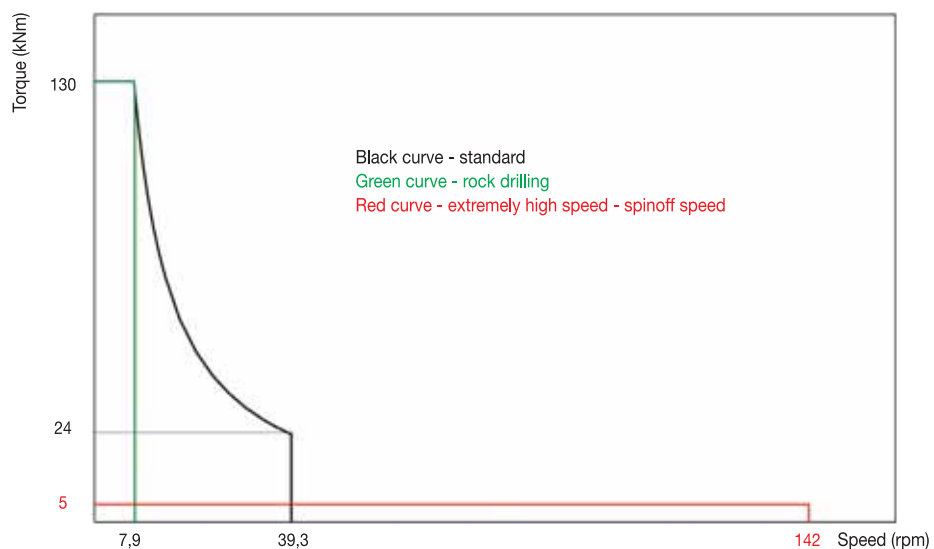
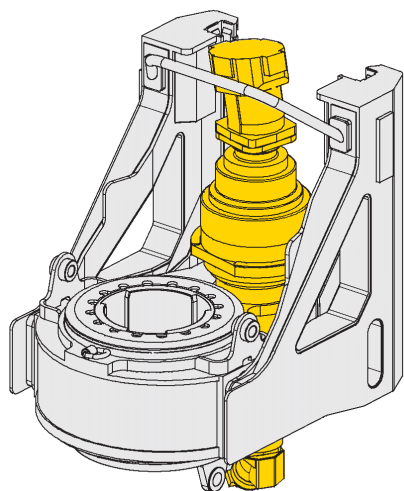
- PLC processor for all electrically actuated functions
- DMS system electronic monitoring and visualization system
- Mast inclination measurement on X/Y axes (*digital/analog display*)
- Automatic vertical alignment of mast
- Depth measuring devise on main winch
- Speed measuring device on rotary
- Rope slack prevention on main winch
- Crowd pressure setting



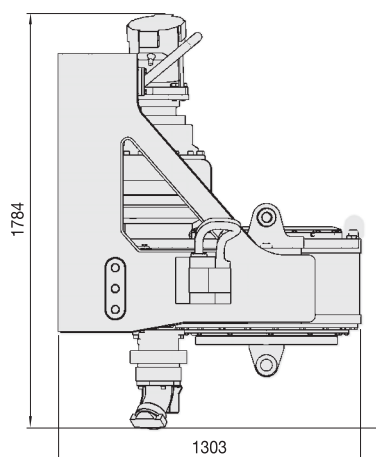
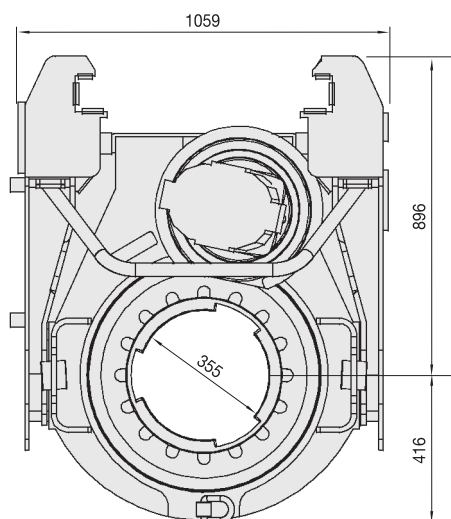
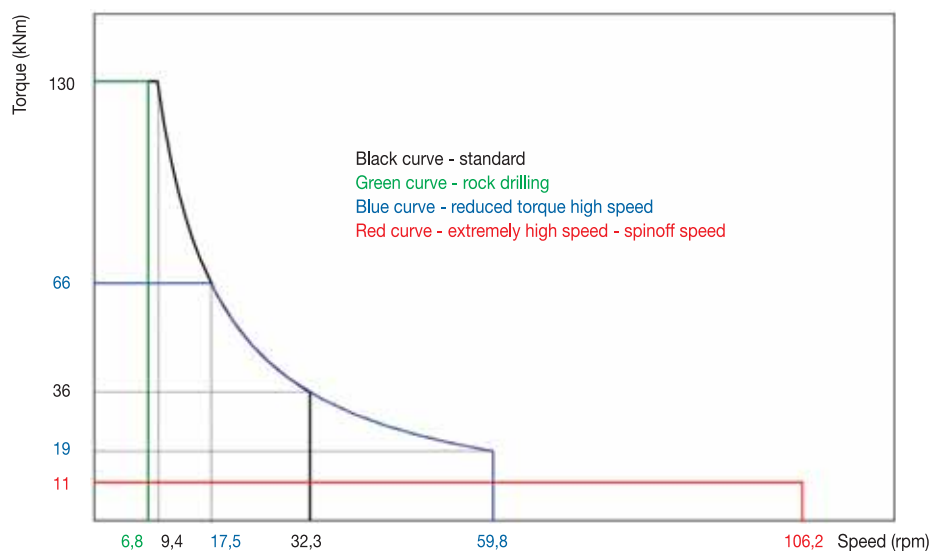
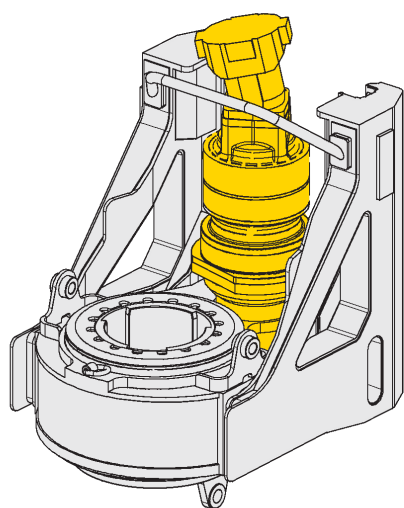
Crowd cylinder version

TECHNICAL DATA - ROTARY DRIVE

Rotary RD-130






Rotary RD-130 G



Rotary	Weight	
Crowd cylinder version	3,1 t	3.41 ton
Crowd winch version	3,4 t	3.74 ton

TECHNICAL DATA - BASE CARRIER



	Engine	QSB6.7 Cummins	QSB6.7 Cummins
	-Rated output ISO 3046-I	164 kW @ 2.200 rpm	<i>220 HP @ 2200 rpm</i>
	-Engine conforms to Exhaust emission Standard	EU stage III, EPA CARB Tier 3	<i>EU stage III, EPA CARB Tier 3</i>
	-Diesel tank capacity	350 l	<i>92.4 US gal</i>
	-Ambient air temperature (at full power)	-18°C up to 43°C	<i>-18°C up to 43°C</i>
	-Sound pressure level in cabin (EN791 Annex A)	84 dB (A)	<i>84 dB (A)</i>
	-Sound power level (2000/14EG u. EN791, Annex A)	110 dB (A)	<i>110 dB (A)</i>
	Hydraulic system		
	-Hydraulic power output (measured at inlet to rotary drive)	120 kW	<i>161 HP</i>
	-Hydraulic pressure	310 bar	<i>4496 psi</i>
	-Flow rates (main circuits)	352 l/min	<i>93 US gal/min</i>
	-Hydraulic oil tank capacity	380 l	<i>100 US gal</i>
	Undercarriage (retractable crawler frames)		
	-Crawler type	D4D	<i>D4D</i>
	-Overall width of crawlers (retracted/extended)	2.550/3.700 mm	<i>100/146 in</i>
	-Width of triple grouser track shoes	600 mm	<i>24 in</i>
	-Overall length of crawlers	4.511 mm	<i>178 in</i>
	-Traction force effective/nominal	244/290 kN	<i>54852/65193 lb_r</i>
	-Travel speed	2,2 km/h	<i>1.4 mph</i>



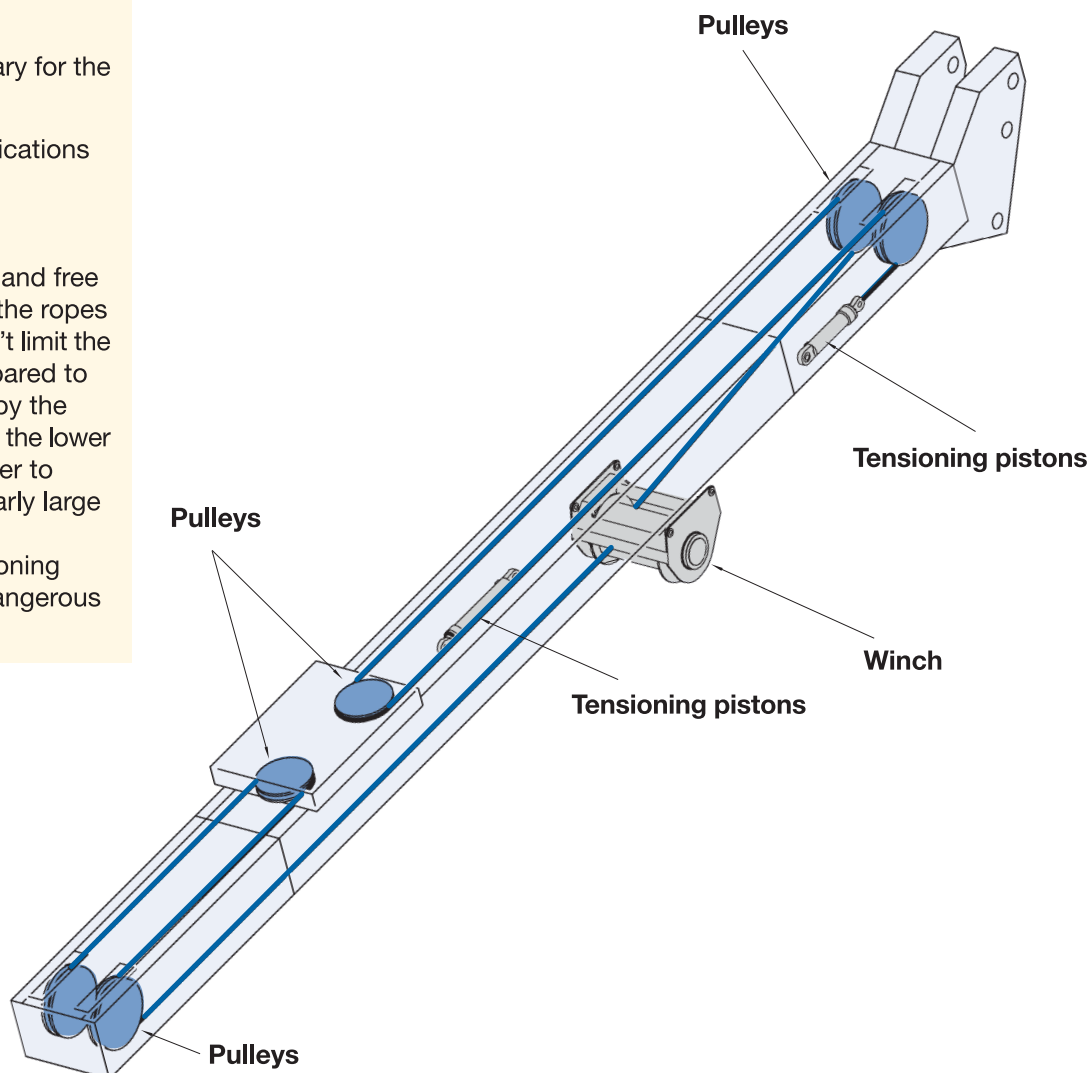
FOCUS - CROWD WINCH SYSTEM

The crowd winch system allows the best versatility of use:

- wide room under the rotary for the casings;
- long run for various applications such as Kelly and CFA.

Soilmec systems are also characterized by the wide and free room in front of the mast (the ropes of the advance system don't limit the excavation diameter compared to the cylinder version) and by the possibility of disassembling the lower element of the mast in order to employ tools with particularly large diameters.

The double dynamic tensioning system avoids piling up dangerous overloads on the rope.



Standard equipment

Emergency mode of operation for engine
Automatic idling mode (to optimise fuel consumption)
Engine diagnostic system
Diagnostic panel for hydraulic functions
Removable counterweight
Transport securing lugs on crawler units
Access ladder on uppercarriage
On-board lighting set
On-board tool set
Electric refuelling pump
High-comfort operator's cab (width: 850 mm)
Protective roof grate (FOPS compliant)
Air conditioning system
Radio and CD player

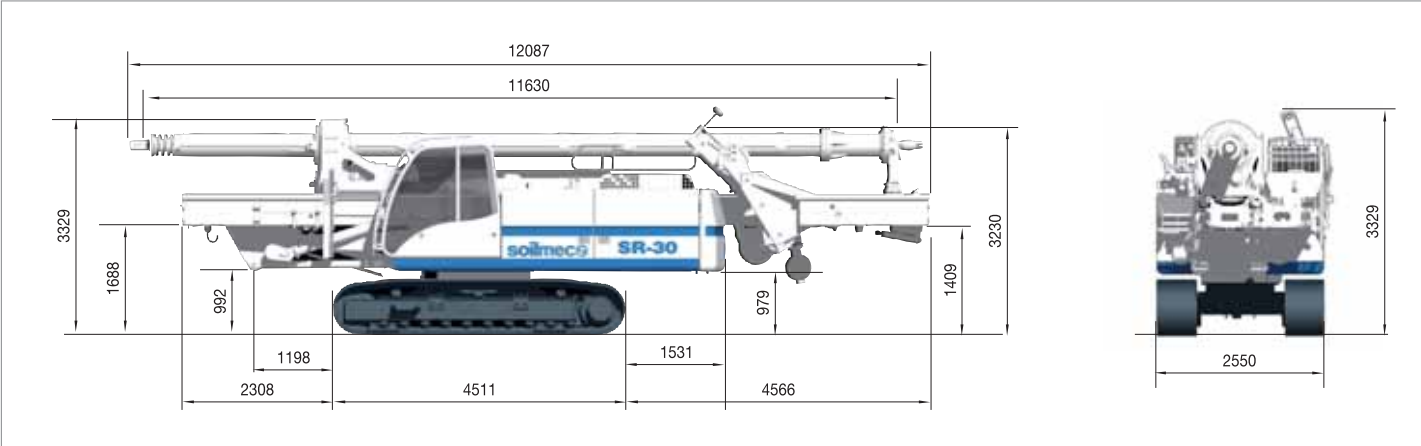
Optional equipment

Base carrier
Bio-degradable oil
Pressurized air conditioning system

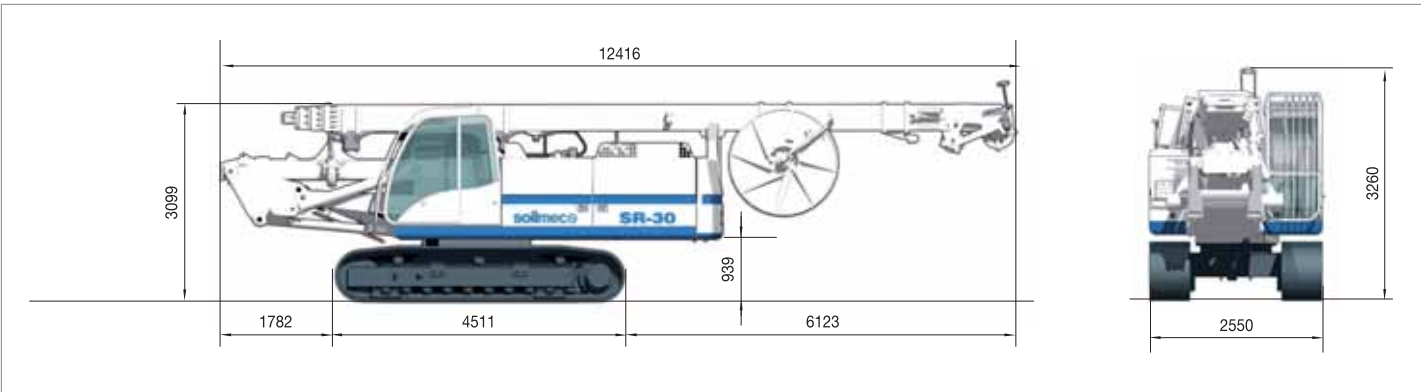
Drilling Equipment
Freefall main winch
Freefall auxiliary winch
Swivel for auxiliary rope
Central lubrication system
Videocamera attachment
Oscillator attachment

Alternative equipment options
Wider triple grouser track shoes

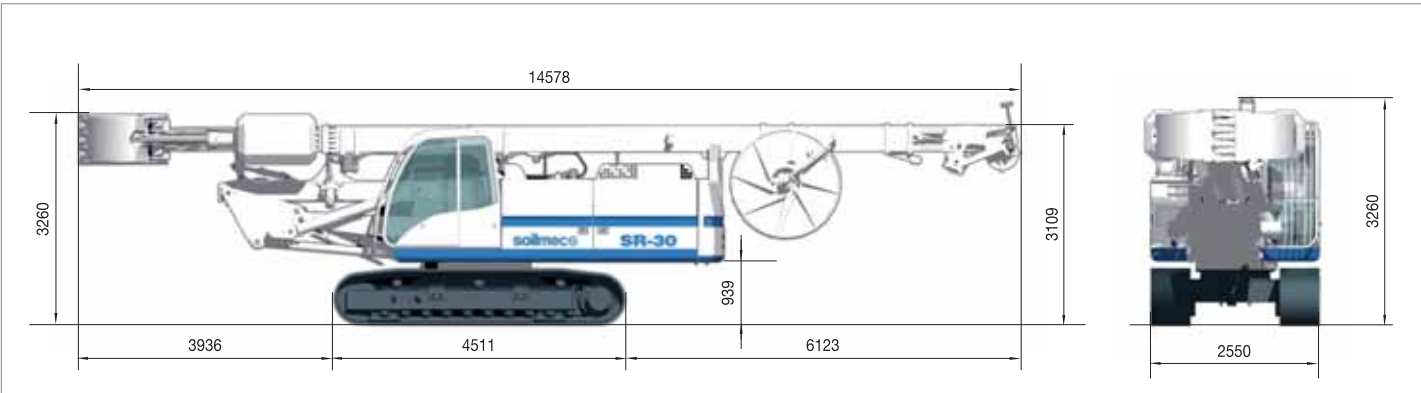
TRANSPORT DATA



Transport w/ rotary head and kelly bar Weight **36.350 kg** *80354 lb*



Transport w/o grab Weight **34.400 kg** *75838 lb*



Transport w/ complete grab system Weight **40.000 kg** *88184 lb*



DMS

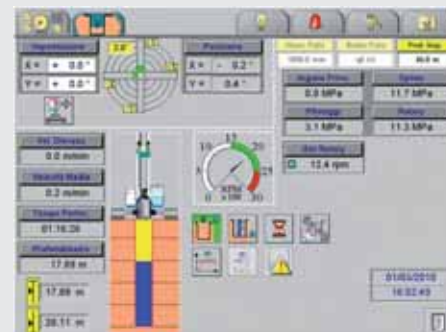
DRILLING MATE SYSTEM

Soilmec innovative DMS - Drilling Mate System – has been designed to incorporate:

- CAN OPEN bus system
- colour touch screen suitable for the drilling field

DMS consists of 3 items:

- 1 - DMS
- 2 - DMS PC
- 3 - DMS MANAGER



DMS

DMS is a standard device on all Soilmec machines. Its main characteristics are:

- interface with Diesel engine
- programmed rig maintenance schedule
- troubleshooting – helping the operator to locate the fault
- production and operation data storage on CF card or USB flash drive for their processing on DMS PC
- connection to modem (GPRS, EDGE or SATELLITE) to send out alarms/data to customer/Soilmec Control Center (DMS Manager) or to an e-mail address.

Technologies currently available on DMS:

- LDP/CFA/DP/RCDS
- CAP/CSP
- GRAB
- HYDROMILL
- JET/DRILLING/ANCHORS
- TTM1-TTM2/SOILMIXING

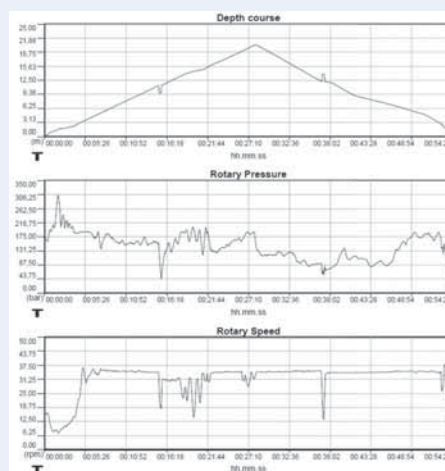
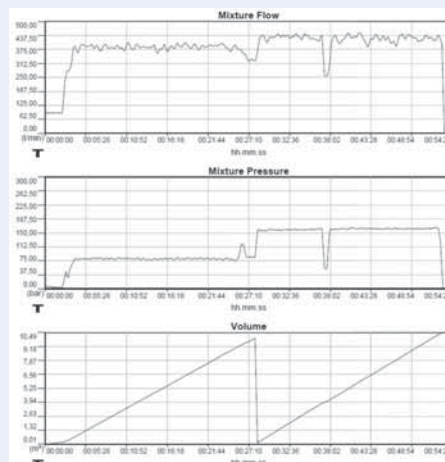
According to technology, DMS can also be complemented with:

- DPS (Drilling Position System) to measure drilling tool vertical deviation
- GPS (Easy Soil System) to position rig on hole

DMS PC

DMS software enables “visualization and processing” of data either stored on CF/USB flash drive or received remotely via radio/GPS/wifi/satellite.

With the use of DMS PC daily and production reports are easily available.



DMS MANAGER

Enables full remote control of the machine operations and processing of drilling data sent by modem (wifi/satellite/GPRS).

DMS MANAGER allows to fully use the DMS potential for a truly comprehensive service to customer/jobsite.



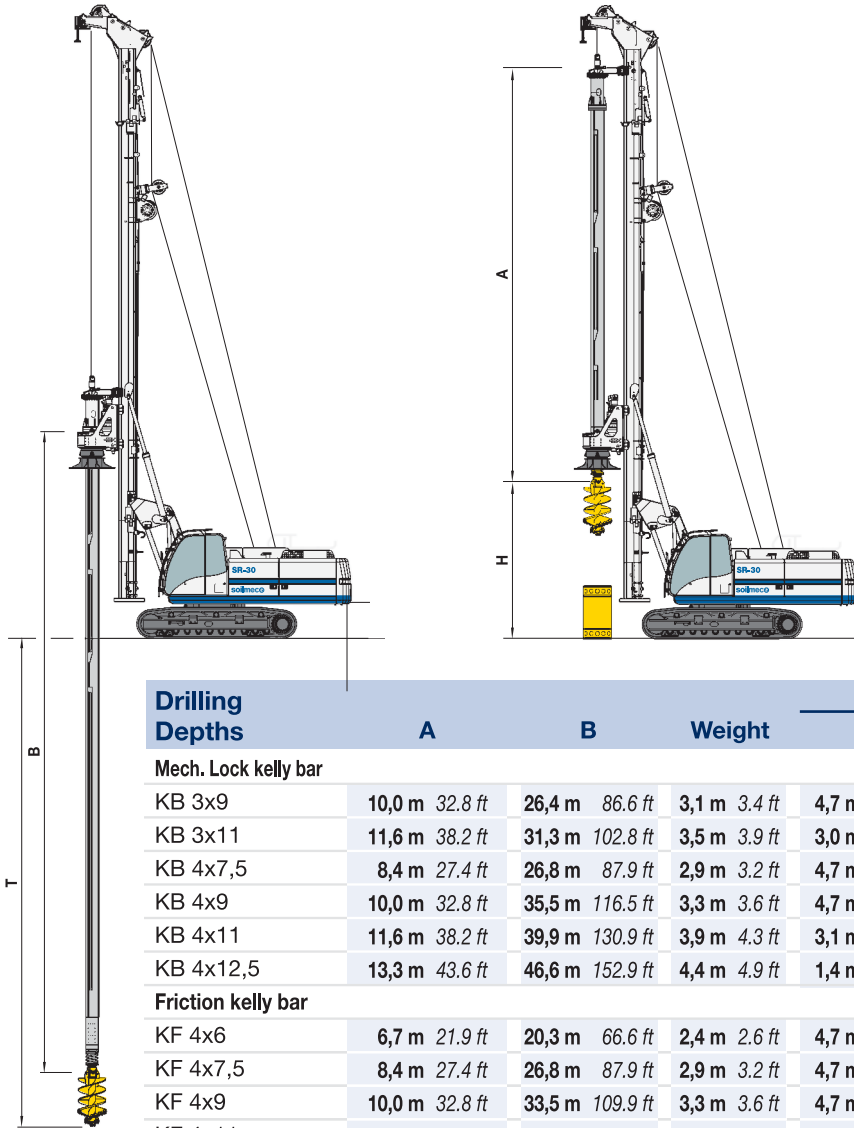
SPARE PART ONLINE CENTER (SPOC)

Although not specifically engineered for DMS, the package enhances the instrumentation since customers can optimize the management of their rigs. In fact this online system offers:

- consultation and downloading of rig documentation, e.g. user and maintenance manuals electrical/hydraulic drawings, DMS manuals, technical documentation, etc.
- placement and management of purchase orders for spare parts.
- real time availability of components of spare parts.

APPLICATIONS

LDP - Kelly Drilling System



Drilling Depths	A		B		Weight	CYLINDER		WINCH						
	m	ft	m	ft		H	T	H	T					
Mech. Lock kelly bar														
KB 3x9	10,0	32.8	26,4	86.6	3,1	3.4	4,7	15.3	24,1	79.1	4,7	15.3	26,0	85.3
KB 3x11	11,6	38.2	31,3	102.8	3,5	3.9	3,0	9.8	29,1	95.5	3,0	9.8	30,9	101.4
KB 4x7,5	8,4	27.4	26,8	87.9	2,9	3.2	4,7	15.3	24,6	80.7	6,3	20.7	26,4	86.6
KB 4x9	10,0	32.8	35,5	116.5	3,3	3.6	4,7	15.3	33,3	109.3	4,7	15.3	35,1	115.2
KB 4x11	11,6	38.2	39,9	130.9	3,9	4.3	3,1	10.0	37,7	123.7	3,1	10.0	39,5	129.6
KB 4x12,5	13,3	43.6	46,6	152.9	4,4	4.9	1,4	4.6	44,4	145.7	1,4	4.6	46,2	151.6
Friction kelly bar														
KF 4x6	6,7	21.9	20,3	66.6	2,4	2.6	4,7	15.3	18,1	59.4	8,0	26.2	19,9	65.3
KF 4x7,5	8,4	27.4	26,8	87.9	2,9	3.2	4,7	15.3	24,6	80.7	6,3	20.7	26,4	86.6
KF 4x9	10,0	32.8	33,5	109.9	3,3	3.6	4,7	15.3	31,3	102.7	4,7	15.3	33,1	108.6
KF 4x11	11,6	38.2	40,1	131.6	3,9	4.3	3,1	10.0	37,9	124.3	3,1	10.0	39,7	130.2
KF 4x12	12,9	42.2	46,0	150.9	4,3	4.7	1,8	5.9	43,8	143.7	1,8	5.9	45,6	149.6
KF 5x8,5	9,6	31.6	39,8	130.6	3,9	4.3	4,7	15.3	37,6	123.4	5,1	16.6	39,4	129.3
KF 5x9	10,0	32.8	41,3	135.5	4,1	4.5	4,7	15.3	39,1	128.3	4,7	15.3	40,9	134.2
KF 5x10	11,0	36.1	46,6	152.9	4,4	4.9	3,7	12.0	44,4	145.7	3,7	12.0	46,2	151.6
KF 5x11	11,6	38.2	49,7	163.1	4,8	5.3	3,1	10.0	47,5	155.8	3,1	10.0	49,3	161.7

Drilling Diameters	CYLINDER		WINCH	
Uncased	1.500	mm	59	in
Cased	1.200	mm	47	in

Length of casing sections					
with casing oscillator	H	0,5	m	1.6	ft
without casing oscillator		n.a.		n.a.	

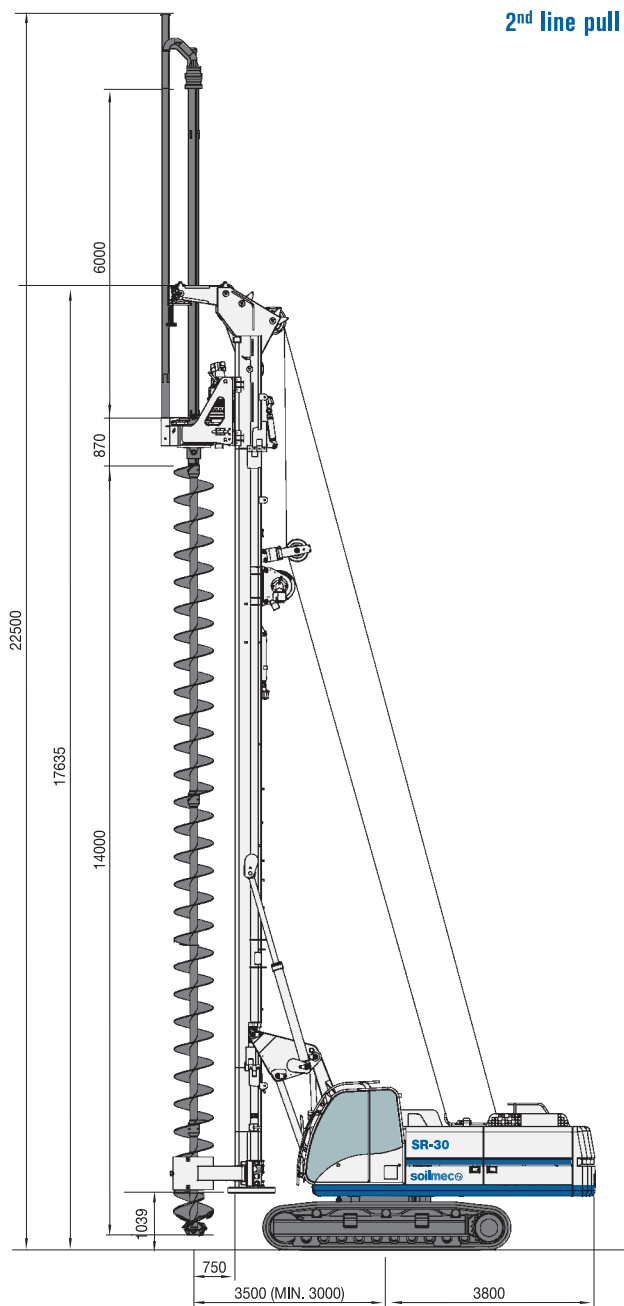
* depend on casing twister length

APPLICATIONS

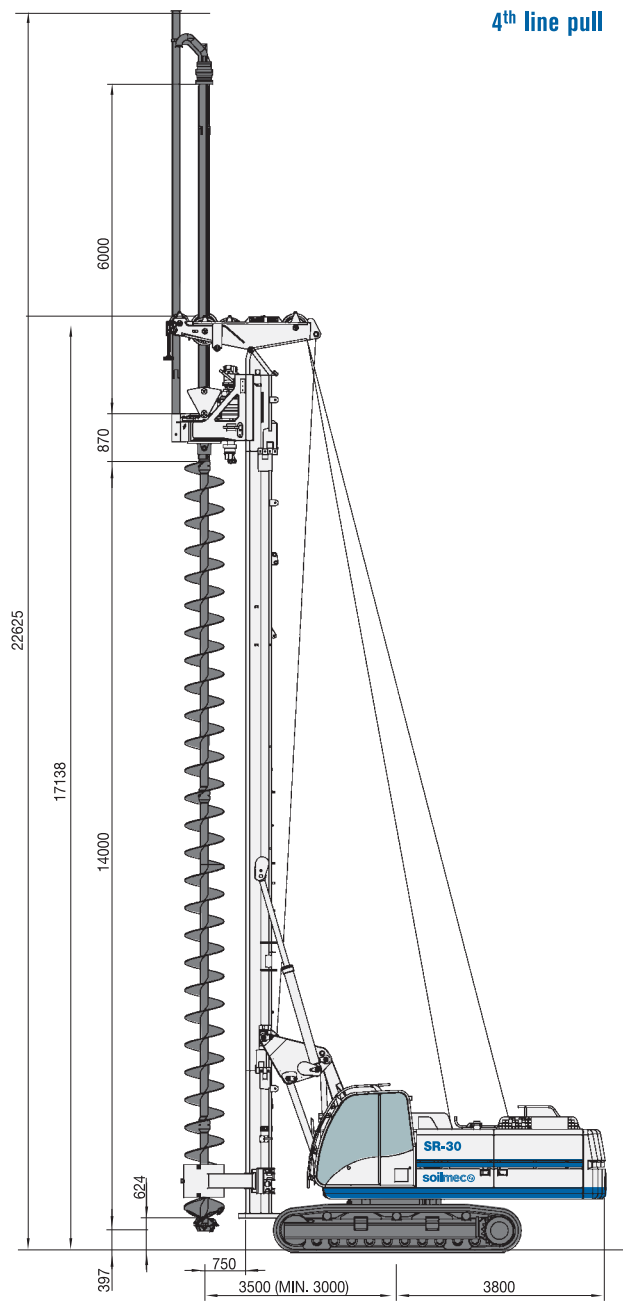
CFA - Continuous Flight Auger

Quick Conversion Model

2nd line pull



4th line pull

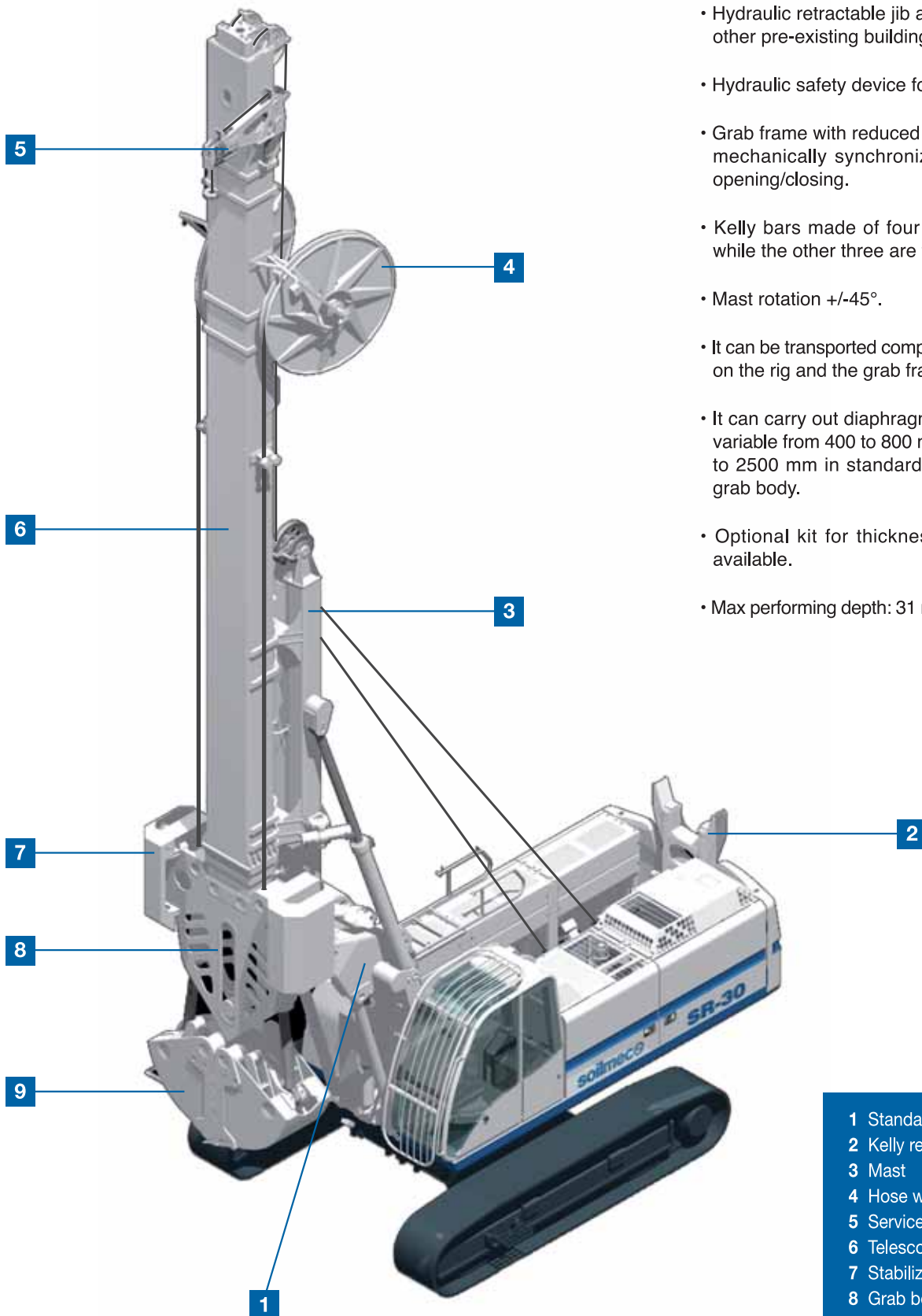


	6 m	19.6 ft	6 m	19.6 ft
Kelly extension				
Drilling depth with auger cleaner	17,5 m (11,5+6)	57.4 ft (37.8+19.6)	18,3 m (12,3+6)	60 ft (40.4+19.6)
Drilling depth without auger cleaner	18,7 m (12,7+6)	61.3 ft (41.7+19.6)	19,5 m (13,5+6)	63.9 ft (44.3+19.6)
Max drilling diameter	750 mm	29.5 in	750 mm	29.5 in
Max extraction force	330 kN	74186 lbf	380 kN	85426 lbf
Max crowd force	100 kN	22480 lbf	37 kN	8318 lbf
Continuous flight auger length including starter auger	14.000 mm	551 in	14.000 mm	551 in
Operating weight (approx. w/o augers)	37.000 kg	81570 lb	35.500 kg	78263 lb

APPLICATIONS

Guided grab GK-5 for diaphragm walls

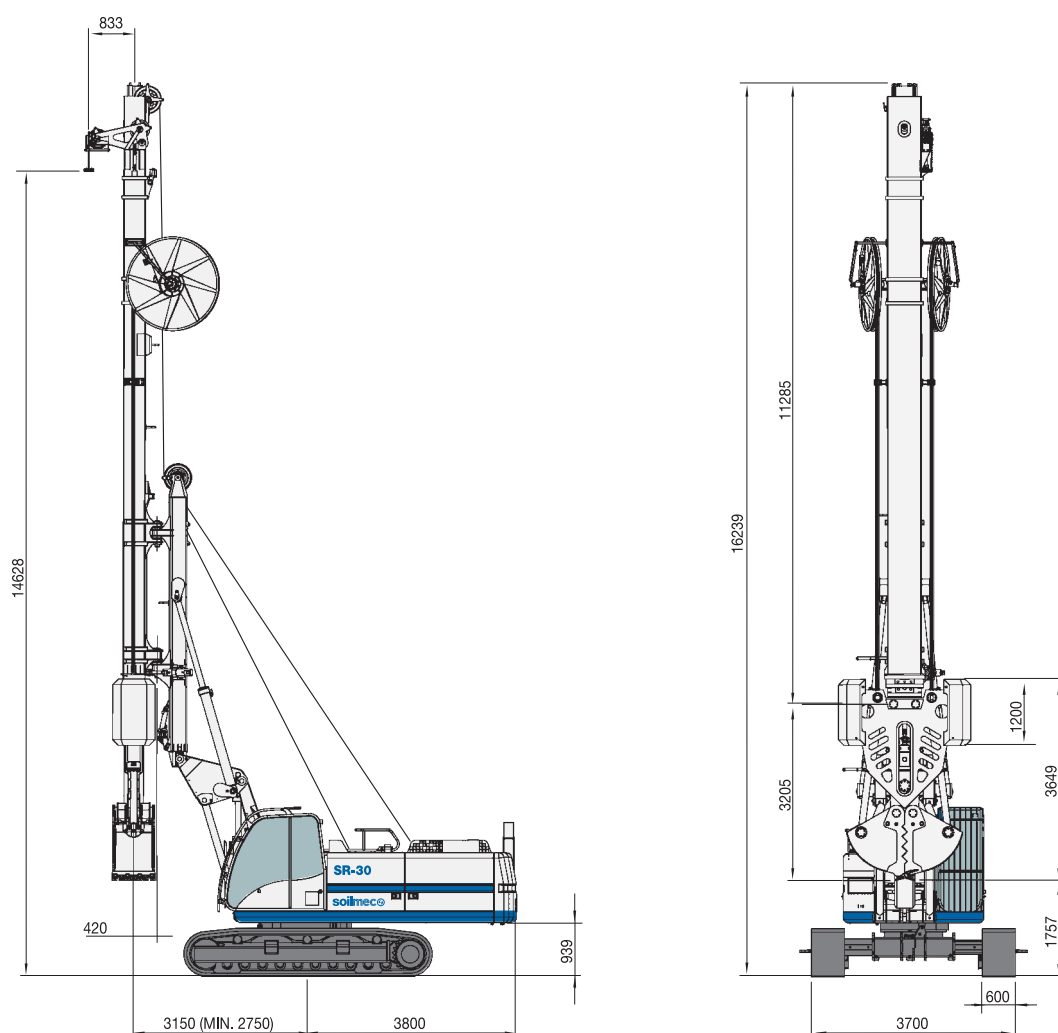
- Easy and quick change from the kelly to the grab version.
- Hydraulic retractable jib allowing to work close to other pre-existing buildings.
- Hydraulic safety device for the transport.
- Grab frame with reduced thickness thanks to two mechanically synchronized jacks for the jaws' opening/closing.
- Kelly bars made of four elements (one is fixed while the other three are telescopic).
- Mast rotation $\pm 45^\circ$.
- It can be transported complete with the mast folded on the rig and the grab frame already assembled.
- It can carry out diaphragm walls with a thickness variable from 400 to 800 mm and width from 2000 to 2500 mm in standard version with the same grab body.
- Optional kit for thicknesses of 300 - 600 mm available.
- Max performing depth: 31 m (with a 5 m extension).



- 1 Standard parallelogram system
- 2 Kelly rest
- 3 Mast
- 4 Hose winders
- 5 Service jib
- 6 Telescopic kelly
- 7 Stabilizers
- 8 Grab body
- 9 Jaws

APPLICATIONS

Guided grab GK-5 for diaphragm walls



Panel thickness	400-800 mm	15.7-31.5 in
Panel width	2,000-2,500 mm	78.7-98.4 in
Max diaphragm depth	31 m	94.5 ft
Rated Power	164 kW	220 HP
Main winch	135 kN	30348 lb _r
DIAPHRAGM WALL		
Grab weight (c/w kelly)	14 t	15.4 ton
Grab total length (c/w kelly)	14 m	42.7 ft
Approx weight (crane+grab)	40 t	44 ton

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

SOILMEC NORTH AMERICA - Houston - U.S.A.
WATSON INC. - Texas - U.S.A.
SOILMEC DO BRASIL - São Paulo - Brasil
SOILMEC U.K. LTD - Peterborough - U.K.
SOILMEC FRANCE S.A.S. - Paris - France
SOILMEC DEUTSCHLAND GmbH - Drolshagen - Germany
SOILMEC S.P.A. - Moscow Repr. Office - Russia
SOILMEC MISR S.A.E. Co. - Il Cairo - Egypt

SOILMEC ARABIA LLC - Jeddah - Saudi Arabia
SOILMEC EMIRATES - Dubai - U.A.E.
SOILMEC INDIA - Mumbai - India
SOILMEC CHINA - Wujiang - P.R. China
SOILMEC (H.K.) Limited - Hong Kong
SOILMEC JAPAN CO LTD - Tokyo - Japan
SOILMEC FAR EAST PTE.LTD - Singapore
SOILMEC AUSTRALIA - Sydney - Australia



SOILMEC S.p.A.
Drilling and Foundation Equipment
5819, via Dismano
47522 Cesena (FC) - Italy
tel. +39.0547.319111
fax +39.0547.318548
e-mail: soilmec@soilmec.it

www.soilmec.it

soilmec 
Drilling and Foundation Equipment