

SR-90

HYDRAULIC ROTARY RIG



SR-90

MAIN FEATURES

- 1 - **Undercarriage** with expandable and removable tracks from 3400 to 5000 mm by means of hydraulic cylinders. Crawlers can be easily and quickly removed for transport purpose
- 2 - **Turret** c/w DEUTZ TCD 2015 V08 diesel engine and sound proofed canopy, mounted on a 360° slew ring
- 3 - **Winch** assembly
- 4 - **New design parallelogram system, specially shaped** to bear crowd winch. Allowing working radius adjustment always maintaining the mast in vertical position. C/w electronic device for automatic stop
- 5 - **Self-erecting mast** composed of an intermediate element 15.2 m long and a top element with 1.9 m extension. The max torque can be applied all over the mast length. Multipurpose design for cylinder and winch crowd system
- 6 - **Sheave cathead** with lateral mounted service rope pulley
- 7 - **Crowd system** by means of 6.5 m stroke hydraulic cylinder or 16.7 m stroke winch (2nd line pull)
- 8 - **Rotary head** with variable displacement motors and one high spin off speed. Three speed gear rotary head available (optional)
- 9 - **Telescopic kelly bar** with guide to mast, available with friction or mechanical locking type
- 10- **Self mounting type counterweight** by means of three hydraulic cylinders. It can be easily and quickly removed for transport purpose
- 11- **New design cabin** with more ergonomic operator's place equipped with the DMS on 12" touch screen



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HYDRAULIC DRILLING RIG

The hydraulic drilling rig SR-90 is mounted on a SOILMEC base carrier and has been specially designed for suiting the following applications:

- **cased bore piles** with casing driven directly through rotary head or optionally by casing oscillator powered by the base carrier itself;
- **very deep bored piles** stabilized by drilling fluid or dry hole;
- **CFA piles** by means of very long auger string;
- **CAP piles** with double rotary;
- **displacement piles**;
- **soil-mixing**;
- **reverse circulation**;
- it can be converted to work with an **hydraulic grab** for diaphragm walls.

The SR-90 is equipped with the **DRILLING MATE SYSTEM (DMS)** on 12" touch screen for monitoring and control of the operating parameters.

Option features:

- three gear rotary head;
- crowd winch force monitoring;
- central lubrication;
- service free-fall winch option;
- memo-block for acquisition of data and software for processing them on PC station. On request data transfer via GSM/GPRS with "calling on trouble" option.

LARGE DIAMETER BORED PILE VERSION

Main performances		
Max pile diameter	mm	2500 / 3000 **
Max pile depth	m	77
Max casing diameter	mm	2500
Undercarriage		
Overall length	mm	5968
Track shoe width	mm	900
Overall width (extended side frames)	mm	5000
Overall width (retracted side frames)	mm	3400
Ground pressure	MPa	0,13
Travelling speed	km/h	2,1
Diesel engine		
Model	type	DEUTZ TCD 2015 V08 *
Rated power	kW (HP)	400 (536)
Hydraulic pumps		
Main pumps	l/min	2x405
Auxiliary pumps	l/min	128, 85, 96, 70, 53, 55
Max working pressure	MPa	30
Main winch		
		Controlled descent
1st layer nominal line pull	kN	320
1st layer nominal rope speed	m/min	78
Rope diameter	mm	32
Auxiliary winch (Standard)		
		Controlled descent
1st layer nominal line pull	kN	145
1st layer nominal rope speed	m/min	90
Rope diameter	mm	26
Auxiliary winch (Optional)		
		Free fall
1st layer nominal line pull	kN	147
1st layer nominal rope speed	m/min	61
Rope diameter	mm	26
Rotary without shifting gear box (Standard)		
Maximum nominal torque	kNm	333
Max spin off speed	rpm	120
Maximum drilling speed	rpm	26
Rotary 3 shifting gear box high speed (Optional)		
Maximum nominal torque	kNm	333 179 50
Max spin off speed	rpm	- - -
Maximum drilling speed	rpm	24 44 90
Winch crowd system (Standard)		
Crowd force (pull down/pull up)	kN	360/360
Pull down stroke	mm	16760
Crowd cylinder (Optional)		
Crowd force (pull down/pull up)	kN	318/322
Pull down stroke	mm	6500



DRILLING MATE SYSTEM

* Emission certification:
EU stage III / US EPA Tier 3

** Removing the mast bottom section

CONTINUOUS FLIGHT AUGER (CFA) VERSION 4th line pull

Main performances		
Max pile diameter	mm	1200
Max pile depth	m	28,5
Max pile depth (w. roller type auger cleaner)	m	27
Max diameter (w. roller type auger cleaner)	mm	1200
Extraction force	kN	1280

CONTINUOUS FLIGHT AUGER (CFA) VERSION 2nd line pull

Main performances		
Max pile diameter	mm	1200
Max pile depth	m	25,5
Max pile depth (w. roller type auger cleaner)	m	24
Max diameter (w. roller type auger cleaner)	mm	1200
Extraction force	kN	940

CASED AUGERED PILES (CAP)

Main performances		
Max pile diameter	mm	1000
Max pile depth	m	25,0 (19,0 cased)
Casing pull up/down	kN	410
Second rotary torque	kNm	350
Max extraction force	kN	1280
Max casing speed	rpm	5

REVERSE CIRCULATION SYSTEM (RCDS)

Main performances		
Max pile diameter	mm	2500
Max pile depth	m	100
Max extraction force	kN	1280

DIAPHRAGM WALLS

Main performances		
Max section excavation	mm	3000 x 1200
Max wall depth	m	70
Max extraction force	kN	400

WEIGHT & DIMENSIONS

* c/w kelly, w/o tool.

** w/o rotary, counterweight and kelly

*** w/o crawlers

		LD version	CFA version	CSP version	RCDS version	BH version
Transport width	mm	3400	3400	3400	3400	3400
Transport height	mm	3885	3890	3890	3890	3600
Transport length	mm	16480	17800	17800	15830	11550
Operating weight	ton	113*	113	118	113	103
Minimum transport weight	ton	79,5**/65,1***	-	-	-	-

KELLY BARS

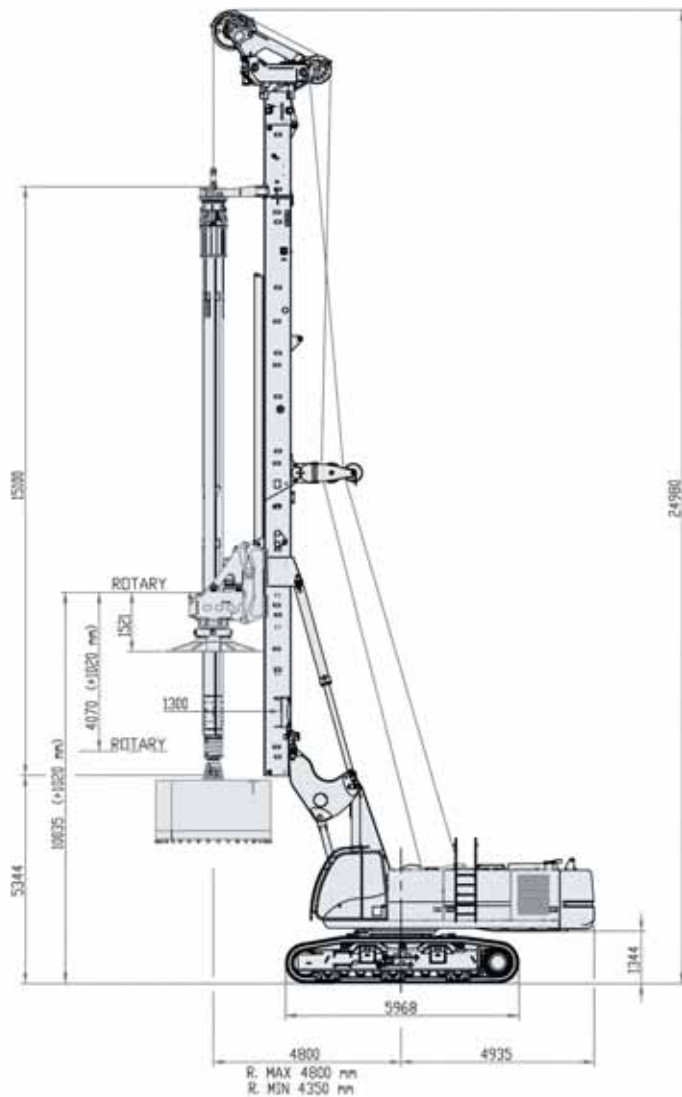
Standard dimension of tool connection is 200x200 mm

H= kelly stub height from ground level

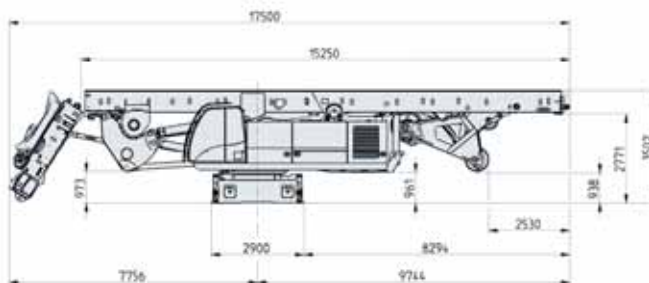
Friction kelly bar – Ø 483 mm	elements n°	length m	depth m	weight ton	H height m
	4x	10,5	37,0	7,0	9,9
	4x	11,5	41,0	7,5	8,8
	4x	13,5	49,5	8,5	6,8
	4x	15,5	57,5	9,5	4,8
	4x	16,5	61,0	10,0	3,9
	5x	10,5	46,0	7,6	9,9
	5x	11,5	51,5	8,3	8,8
	5x	13,5	62,0	9,6	6,8
	5x	15,5	72,0	10,9	4,8
	5x	16,5	76,5	11,5	3,9
Mechanical locking kelly bar – Ø 483 mm	elements n°	length m	depth m	weight ton	H height m
	4x	10,5	37,0	7,0	9,9
	4x	11,5	41,0	7,5	8,8
	4x	13,5	49,0	8,5	6,8
	4x	15,5	57,0	9,5	4,8
	4x	16,5	61,0	10,0	3,9

LARGE DIAMETER BORED PILE VERSION

**Crowd cylinder
(optional)**



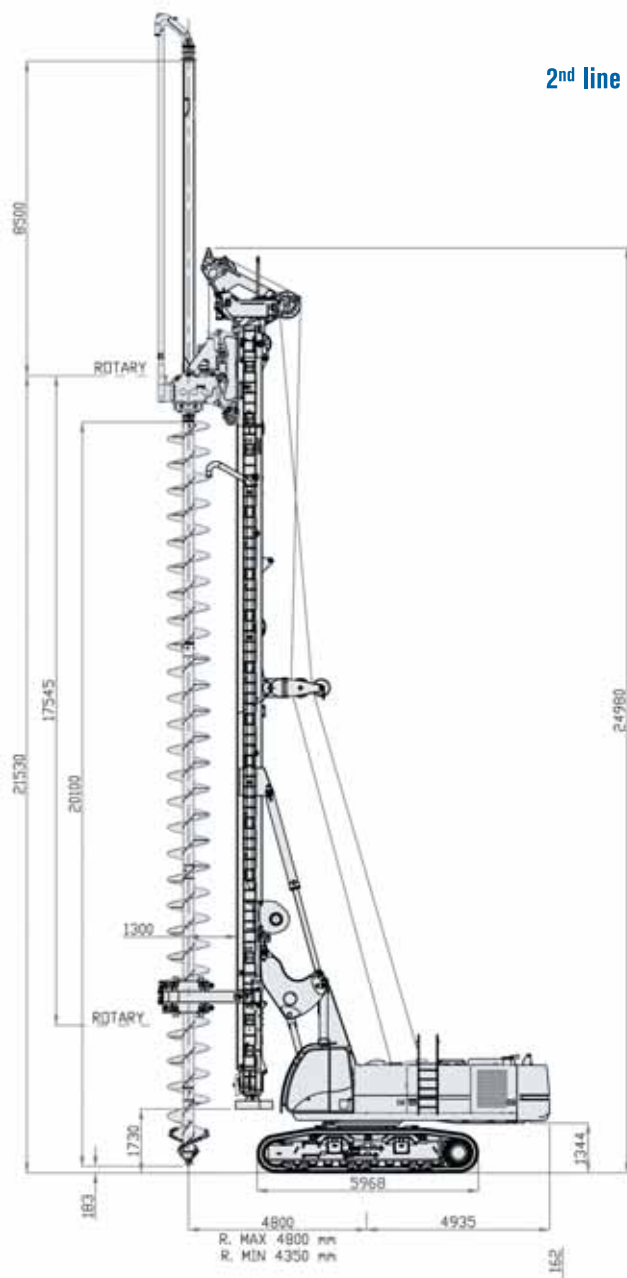
w/o crawlers



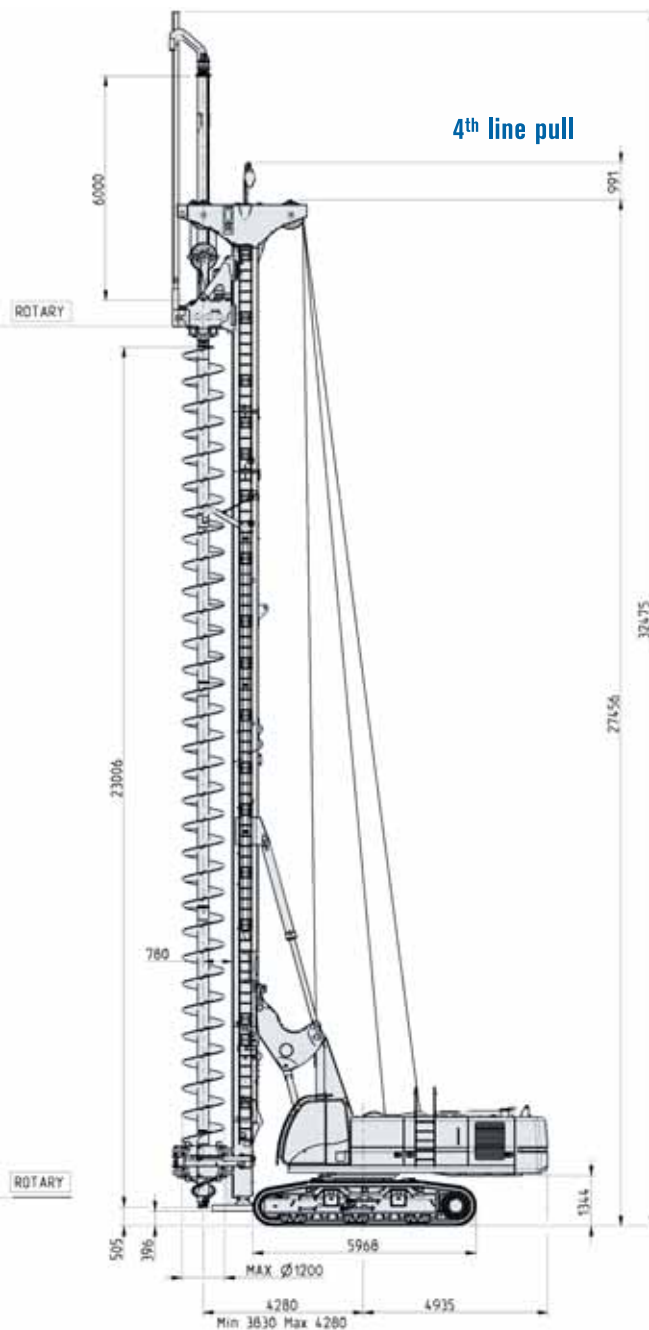
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CONTINUOUS FLIGHT AUGER VERSION

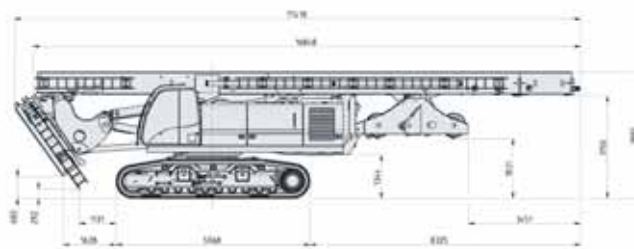
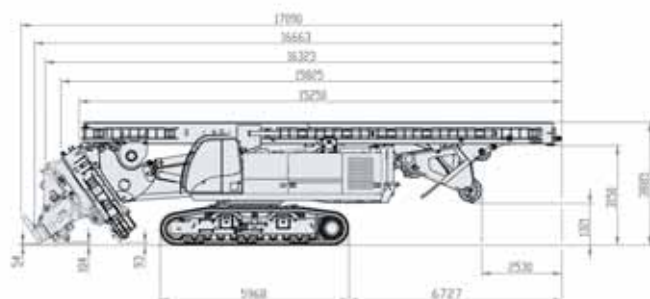
2nd line pull



4th line pull



CFA Transport Condition





SOILMEC distributes machinery and structures all over the world, supported by SOILMEC subsidiary companies and representative offices:

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SOILMEC EMIRATES - Dubai - U.A.E.
SOILMEC GULF - Dubai - U.A.E.
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CERTIFIED QUALITY SYSTEM

In 1990 Soilmec was awarded with the certification of its Quality System complying with ISO 9001:2000 and ISO 14001:2004 standards.



SOILMEC S.p.A.

Drilling and Foundation Equipment

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All technical data are purely indicative and subject to change without notice

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