

SR-50

HYDRAULIC ROTARY RIG



SR-50

HYDRAULIC DRILLING RIG

The hydraulic drilling rig SR-50 is mounted on 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;
- **deep bored piles** stabilized by drilling fluid or dry hole;
- **CFA piles** by means of very long auger string;
- **displacement piles**;
- **soil-mixing**.

The SR-50 is equipped with:

- **DRILLING MATE SYSTEM (DMS)** for monitoring of the drilling parameters. Memo-block for acquisition of data and software for processing them on PC station;
- **CAT monitoring system** of the engine power and hydraulic system.

Option features:

- three gear rotary table;
- crowd winch force monitoring;
- central lubrication;
- service winch free-fall option;
- data transfer via GSM/GPRS with "calling on trouble" option.

Large diameter bored pile		
Max pile diameter	mm	2000
Max pile depth	m	61
Max casing diameter	mm	1300/1500
Undercarriage		
Overall length	mm	5200
Track shoe width	mm	700
Overall width (extended side frames)	mm	3900
Overall width (retracted side frames)	mm	2500
Ground pressure	MPa	0,08
Diesel engine		
Model	type	CAT C7 ACERT
Power	kW (HP)	224 (304)
Hydraulic pumps		
Main pumps	lt/min	2x230
Auxiliary pumps	lt/min	32
Max working pressure	MPa	35
Main winch		
1st layer nominal line pull	kN	185
1st layer nominal rope speed	m/min	61
Rope diameter	mm	24
Auxiliary winch		
1st layer nominal line pull	kN	75
1st layer nominal rope speed	m/min	62
Rope diameter	mm	18
Rotary (3 shifting gear box high speed) ø 355		
Maximum nominal torque	kNm	162/87/25
Max spin off speed	rpm	100
Maximum drilling speed	rpm	47
Rotary (without shifting gear box) ø 404		
Maximum nominal torque	kNm	80
Max spin off speed	rpm	133
Maximum drilling speed	rpm	29
Crowd cylinder		
Crowd force (pull down/pull up)	kN	122/220
Pull down stroke	mm	5100
Winch crowd system		
Crowd force (pull down/pull up)	kN	220
Pull down stroke	mm	11000

CFA VERSION

Continuous Flight Auger (CFA) 4 line pull		
Max pile diameter	mm	1000
Max pile depth	m	21
Max pile depth (w. roller type auger cleaner)	m	13,5
Max diameter (w. roller type auger cleaner)	mm	1000
Extraction force	kN	520
Diesel engine		
Model	type	CAT C7 ACERT
Power	kW (HP)	224 (304)
Hydraulic pumps		
Main pumps	lt/min	2x230
Auxiliary pumps	lt/min	32
Max working pressure	MPa	35
Rotary table		
Maximum torque	kNm	180
Maximum drilling speed	rpm	29
Main winch		
Model		SW185
1st layer nominal line pull	kN	130
1st layer nominal rope speed	m/min	61
Rope diameter	mm	24
Service winch		
Model		SW90
1st layer nominal line pull	kN	75
1st layer nominal rope speed	m/min	62
Rope diameter	mm	18

OTHER VERSIONS

Cased Secant Piles (CSP/CAP)		
Max pile diameter	mm	-
Max pile depth	m	-
Casing pull up/down	kN	-
Second rotary	kNm	-
Max extraction force	kN	-
Max casing speed	rpm	-
Operating weight. approx	tons	-
Reverse Circulation System (RC)		
Max pile diameter	mm	-
Max pile depth	m	-
Max extraction force	kN	-
Operating weight approx	tons	-
Diaphragm Walls		
Max section excavation	mm	-
Max wall depth	m	-
Max extraction force	kN	-
Operating weight approx	tons	-

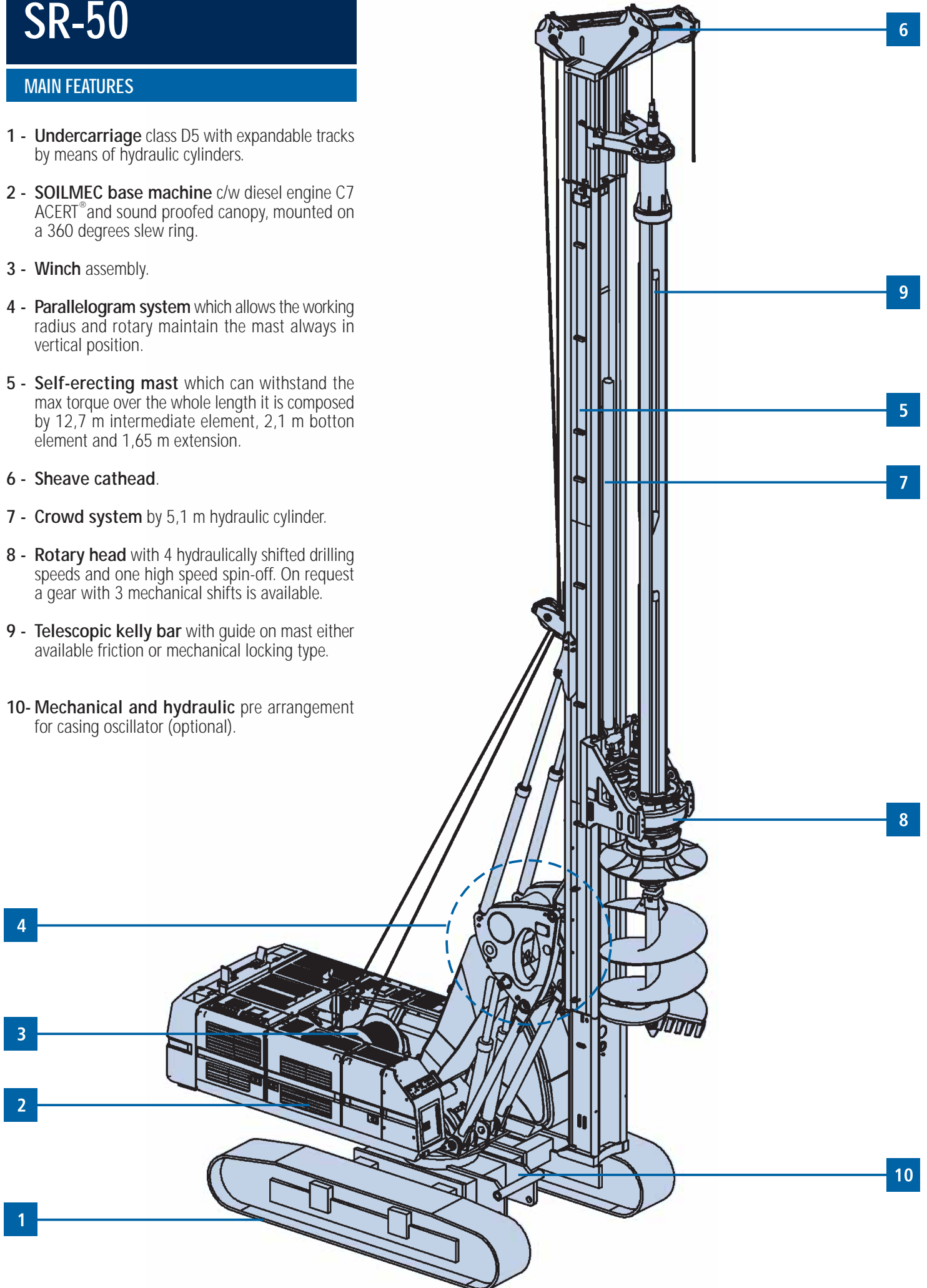
WEIGHT & DIMENSIONS

		LD version	CFA version	CSP version	RC version	BH version
Transport width	mm	2550	2550	-	-	-
Transport height	mm	3330	3330	-	-	-
Transport length	mm	13680	13680	-	-	-
Operating weight	ton	54	54	-	-	-
Minimum transport weight	ton	41/47	41	-	-	-

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MAIN FEATURES

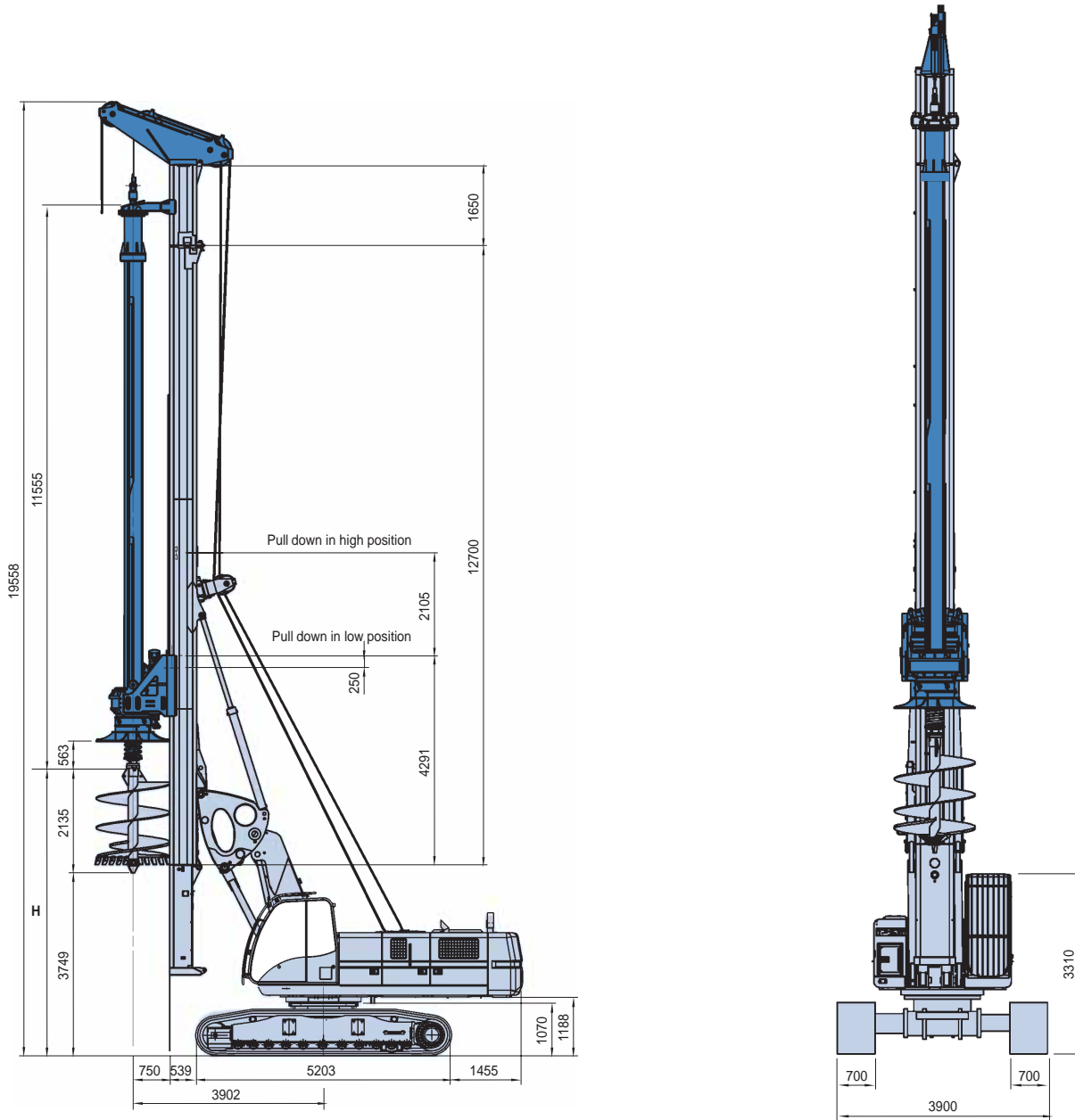
- 1 - **Undercarriage** class D5 with expandable tracks by means of hydraulic cylinders.
- 2 - **SOILMEC base machine** c/w diesel engine C7 ACERT® and sound proofed canopy, mounted on a 360 degrees slew ring.
- 3 - **Winch** assembly.
- 4 - **Parallelogram system** which allows the working radius and rotary maintain the mast always in vertical position.
- 5 - **Self-erecting mast** which can withstand the max torque over the whole length it is composed by 12,7 m intermediate element, 2,1 m bottom element and 1,65 m extension.
- 6 - **Sheave cathead**.
- 7 - **Crowd system** by 5,1 m hydraulic cylinder.
- 8 - **Rotary head** with 4 hydraulically shifted drilling speeds and one high speed spin-off. On request a gear with 3 mechanical shifts is available.
- 9 - **Telescopic kelly bar** with guide on mast either available friction or mechanical locking type.
- 10- **Mechanical and hydraulic** pre arrangement for casing oscillator (optional).



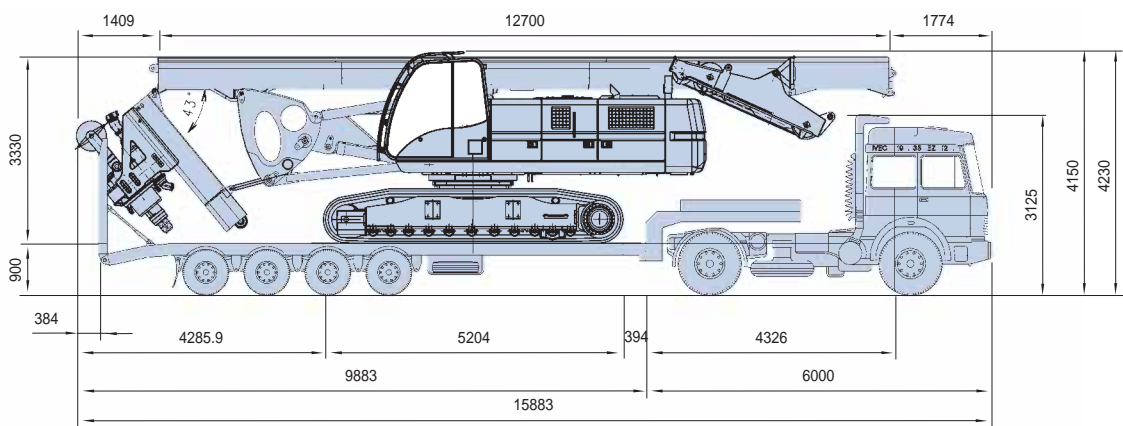
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LARGE DIAMETER BORED PILES

Working Condition



CFA Transport

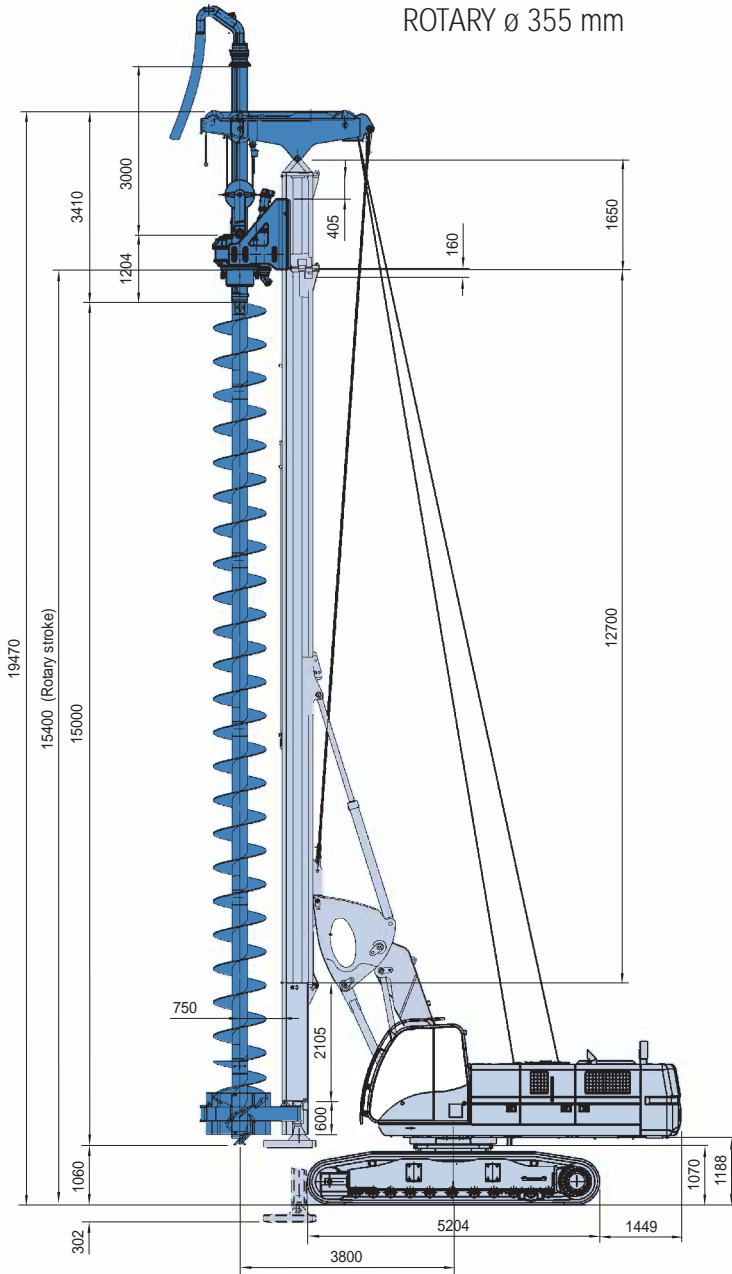


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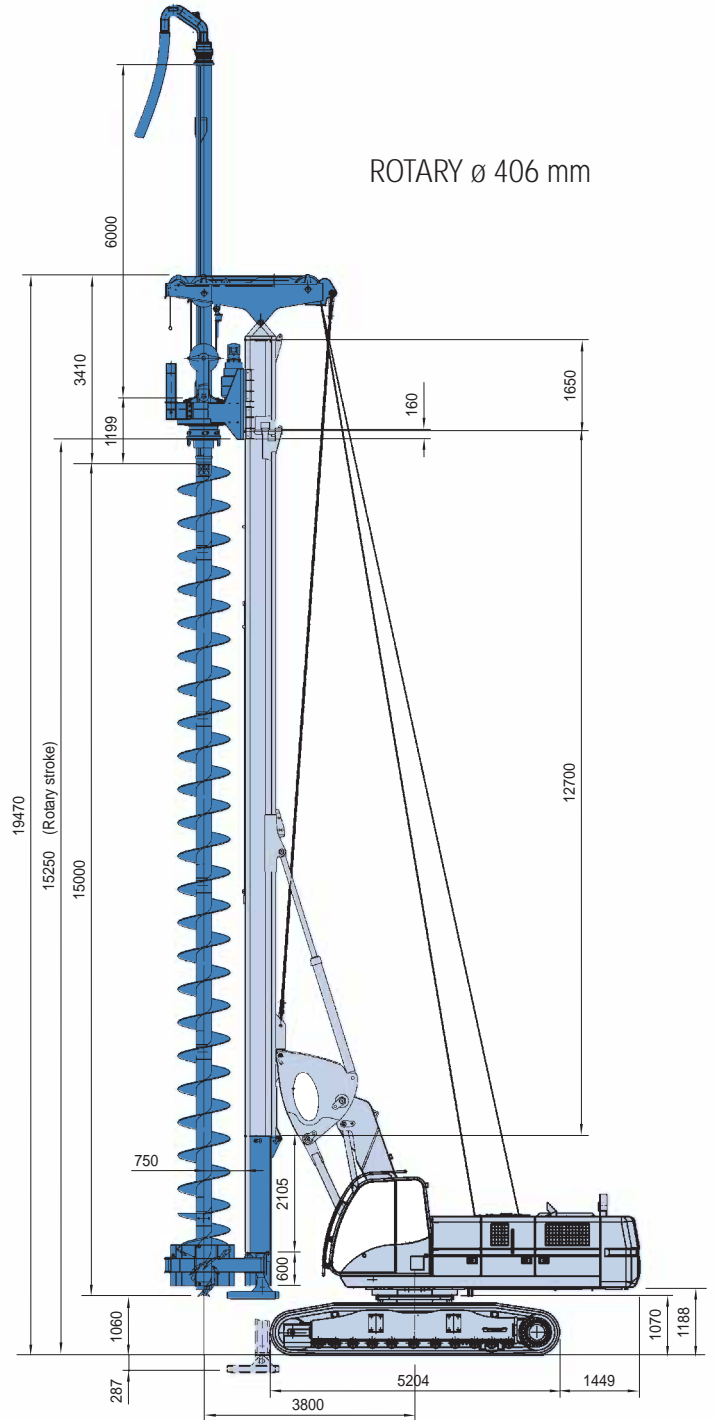
CFA VERSION

Working Condition

ROTARY Ø 355 mm



ROTARY Ø 406 mm



Kelly Bars

Mechanical locking kelly bar – Ø 355 mm

elements n°	length m	depth m	weight ton	H height m
4x	6,0	18,5	2,4	6,9
4x	8,0	28,5	3,0	6,9
4x	9,0	32,5	3,3	6,6
4x	10,5	38,5	3,8	5,1
4x	12,0	45,0	4,2	3,4
4x	13,0	48,0	4,6	2,6

H=Kelly stub height from ground level

Friction kelly bar – Ø 355 mm

elements n°	length m	depth m	weight ton	H height m
4x	6,0	20,0	2,4	6,9
4x	9,0	33,0	3,4	6,6
4x	11,0	40,0	3,7	4,2
4x	12,0	46,0	4,2	3,4
5x	8,5	39,0	4,1	6,9
5x	9,0	41,0	4,3	6,6
5x	11,0	50,0	5,1	3,6
5x	12,0	55,0	5,5	3,8



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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.



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