

SR-100

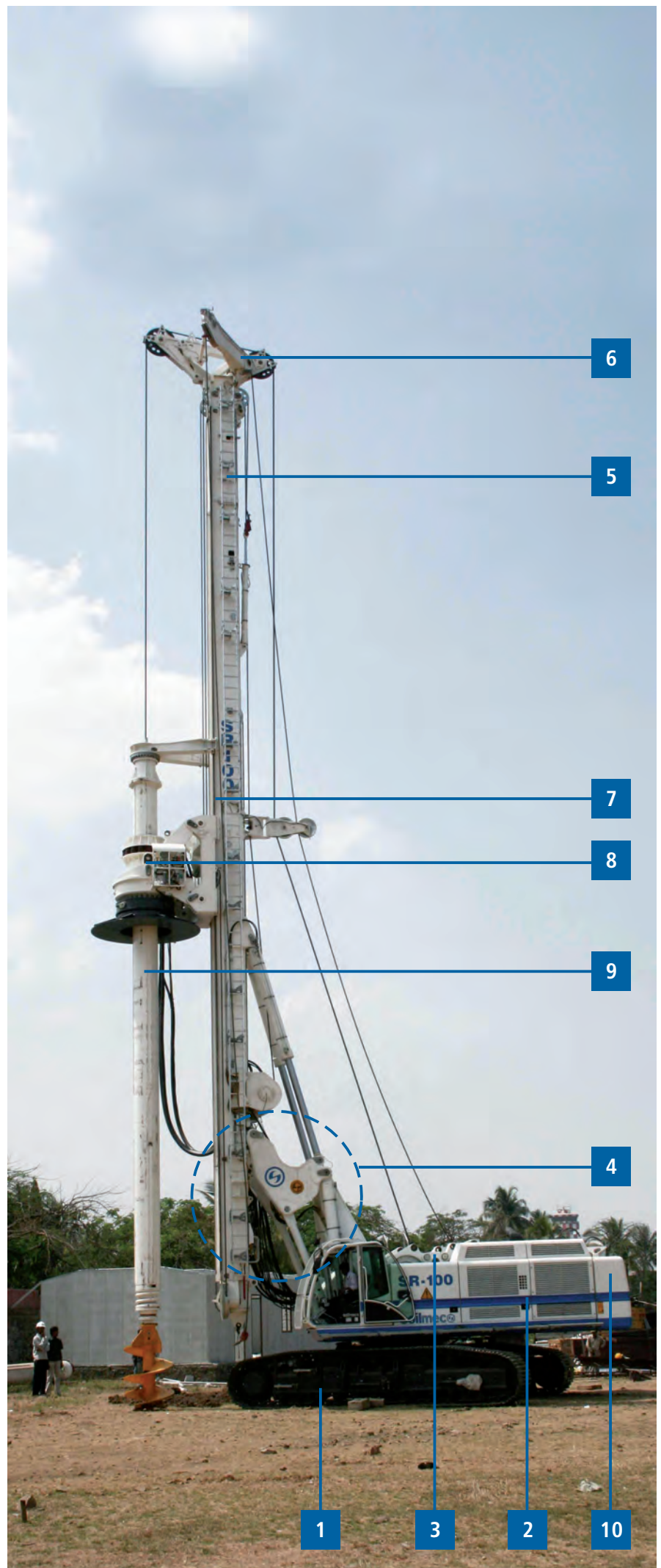
HYDRAULIC ROTARY RIG



SR-100

MAIN FEATURES

- 1 - **Undercarriage** with expandable and removable tracks from 3500 to 5100 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 2 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 7,65 m stroke hydraulic cylinder or 18 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



SR-100

HYDRAULIC DRILLING RIG

The hydraulic drilling rig SR-100 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-100 is equipped with the **DRILLING MATE SYSTEM (DMS)** on 12" touch screen for monitoring 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 informations and diagnostic capability
- pump pressures
- mast verticality
- drilling depth
- rotary speed and pressure
- crowd pressure
- graphics drilling trends

Additional **DMS optional** features:

- recording of operating data into storage card
- DMS-PC software package to analyze and print production data and Job site daily reports
- automatic turret hole centering
- automatic mast verticality
- CFA kit for automatic auger lifting
- remote transmission of process and operating data
- tele assistance

LARGE DIAMETER BORED PILES (LDP)

* Emission certification:

EU stage III / US EPA Tier3

** Removing the mast bottom section

Main performances

Max pile diameter	mm	3000 / 3500 **
Max pile depth	m	92
Max casing diameter	mm	3000

Undercarriage

Overall length	mm	6385
Track shoe width	mm	1000
Overall width extended side frames (retracted)	mm	5100
Overall width retracted side frames	mm	3500
Ground pressure	MPa	0,13
Travelling speed	km/h	0,9

Diesel engine

Model	type	DEUTZ TCD 2015 V08 *
Rated power	kW (HP)	480 (643)

Hydraulic pumps

Main pumps	l/min	2x405
Auxiliary pumps	l/min	128, 85
Max working pressure	MPa	30

Main winch

Controlled descent

1st layer nominal line pull	kN	370
1st layer nominal rope speed	m/min	68
Rope diameter	mm	34

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 3 shifting gear box high speed

Maximum nominal torque	kNm	452	245	69
Max spin off speed	rpm	-	-	-
Maximum drilling speed	rpm	17	31	66

Winch crowd system (Standard)

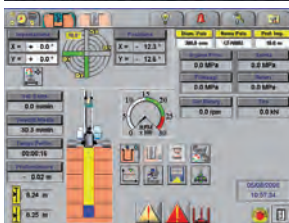
Crowd force (pull down/pull up)	kN	440 / 440
Pull down stroke	mm	18000

Crowd cylinder (Optional)

Crowd force (pull down/pull up)	kN	330 / 417
Pull down stroke	mm	7650



CONTROL CAMERA SYSTEM



DRILLING MATE SYSTEM



CONTINUOUS FLIGHT AUGER (CFA)

4th line pull

Main performances		
Max pile diameter (w. roller type auger cleaner)	mm	1400 (1400)
Max pile depth (w. roller type auger cleaner)	m	31 (29)
Max extraction force	kN	1480
Crowd force on auger (option)	kN	440

CONTINUOUS FLIGHT AUGER (CFA)

2nd line pull

Main performances		
Max pile diameter (w. roller type auger cleaner)	mm	1400 (1400)
Max pile depth (w. roller type auger cleaner)	m	27 (25,5)
Max extraction force	kN	1140
Crowd force on auger	kN	440

CASED AUGERED PILES (CAP)

Main performances		
Max pile diameter	mm	1200
Max pile depth	m	27 (21 cased)
Casing pull up/down	kN	440 + 400 / 440
Second rotary torque	kNm	440
Max casing speed	rpm	5
Max extraction force	kN	1440

REVERSE CIRCULATION SYSTEM (RCDS)

Main performances		
Max pile diameter	mm	2500
Max pile depth	m	100
Max extraction force	kN	1480

TURBOJET

Main performances		
Max pile diameter (2 nd /4 th line pull)	mm	1800 / 1600
Max pile depth (2 nd /4 th line pull)	m	25,8 / 27,4
Max extraction force (2 nd /4 th line pull)	kN	440 / 1480
Crowd force (2 nd /4 th line pull)	kN	440 / 440

WEIGHT & DIMENSIONS

⁽¹⁾ c/w kelly, w/o tool

⁽²⁾ c/w rotary, w/o counterweight and kelly

⁽³⁾ w/o crawlers

⁽⁴⁾ with/without track side frames

		LDP version	CFA version	CAP version	RCDS version	TJ version
Transport width	mm	3500	3500	3500	3500	3500
Transport height	mm	4100/3710 ⁽⁴⁾	4100/3710	4100/3710	4100	4100/3710
Transport length	mm	17100	18800	18800	17100	18800
Operating weight	ton	140 ⁽¹⁾	140	150	140	140
Minimum transport weight	ton	95 ⁽²⁾ /80 ⁽³⁾	95/80	100/80	95/80	95/80

KELLY BARS

Standard dimension of tool connection is 200x200 mm

H = kelly stub height from ground level

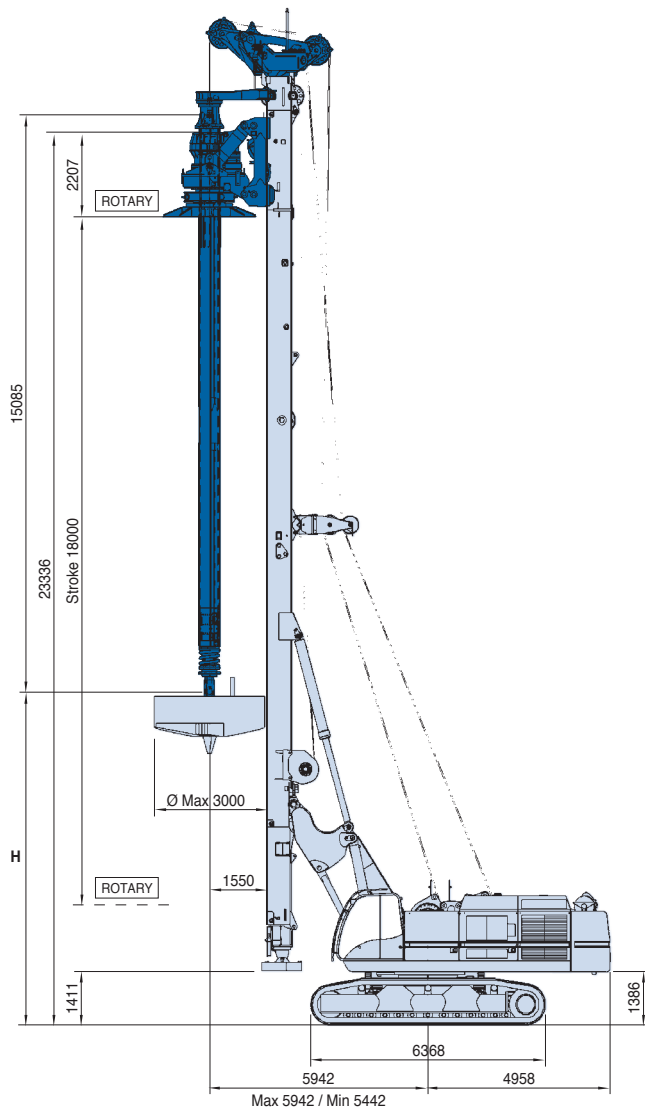
Mechanical locking kelly bar – Ø 558 mm					Friction kelly bar – Ø 558 mm				
elements n°	length m	depth m	weight ton	H height m	elements n°	length m	depth m	weight ton	H height m
4x	10,5	36,1	8,6	11,8	4x	10,5	36,1	8,6	11,8
4x	11,5	39,7	9,2	10,8	4x	11,5	39,7	9,2	10,8
4x	13,5	48,4	10,5	8,7	4x	13,5	48,4	10,5	8,7
4x	15,5	56,7	11,7	6,7	4x	15,5	56,7	11,7	6,7
4x	16,5	61,2	12,3	5,6	4x	16,5	61,2	12,3	5,6
5x	10,5	44,2	9,9	11,9	5x	10,5	44,2	9,9	11,9
5x	11,5	49,2	10,6	10,8	5x	11,5	49,2	10,6	10,8
5x	13,5	60,7	12,2	8,7	5x	13,5	60,7	12,2	8,7
5x	15,5	71,1	13,8	6,7	5x	15,5	71,1	13,8	6,7
5x	16,5	76,4	14,5	5,6	5x	16,5	76,4	14,5	5,6
					6x	10,5	53,7	10,6	11,9
					6x	11,5	59,7	11,4	10,8
					6x	13,5	72,2	13,1	8,8
					6x	15,5	84,2	14,8	6,8
					6x	16,5	89,7	15,6	5,8

Note:
* with pull-down cylinder, depth increases of 0.8 m.

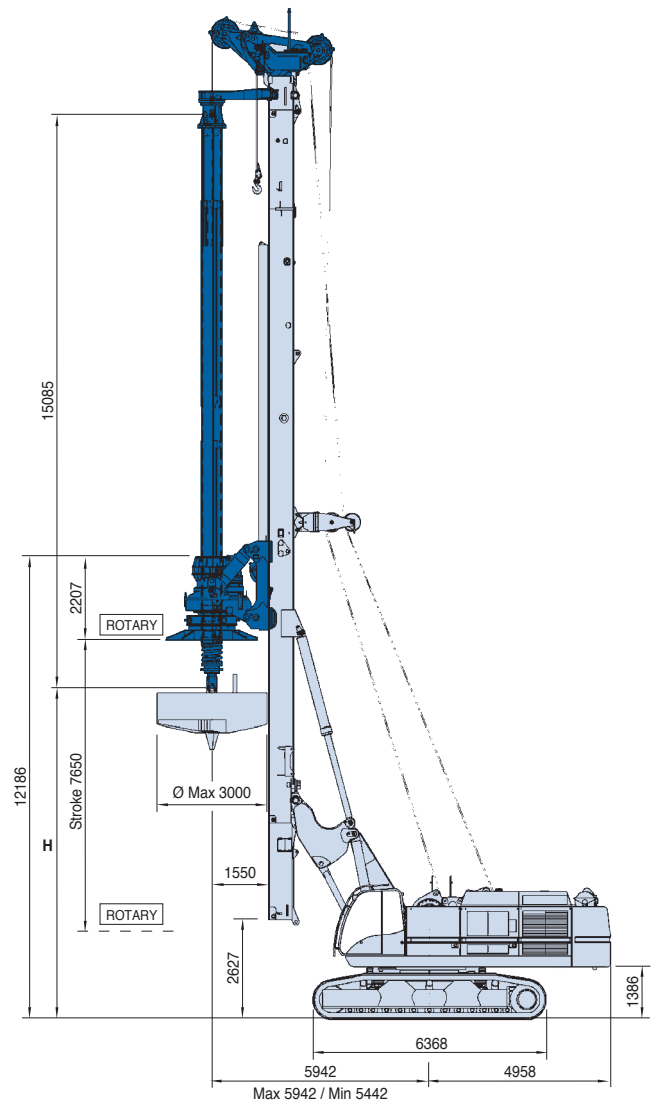
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LARGE DIAMETER BORED PILES (LDP) VERSION

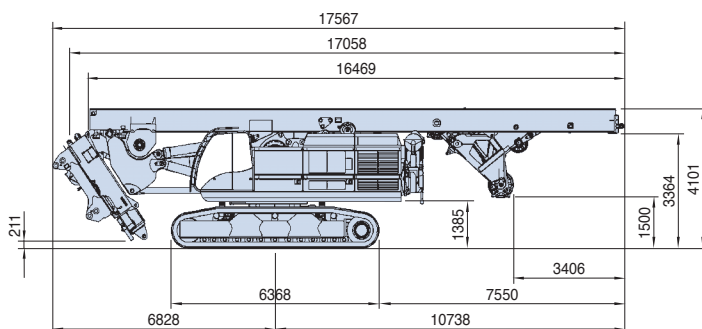
Winch crowd system (standard)



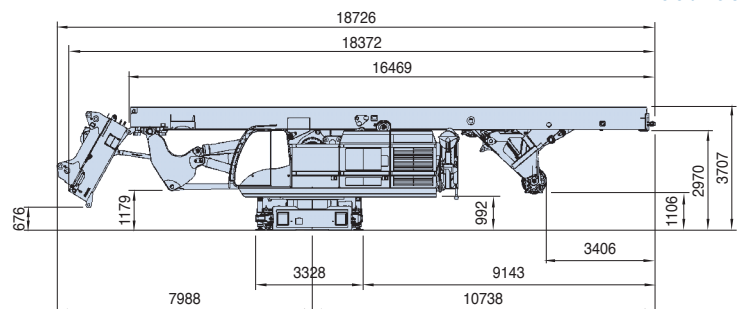
Crowd cylinder (optional)



LDP Transport Condition

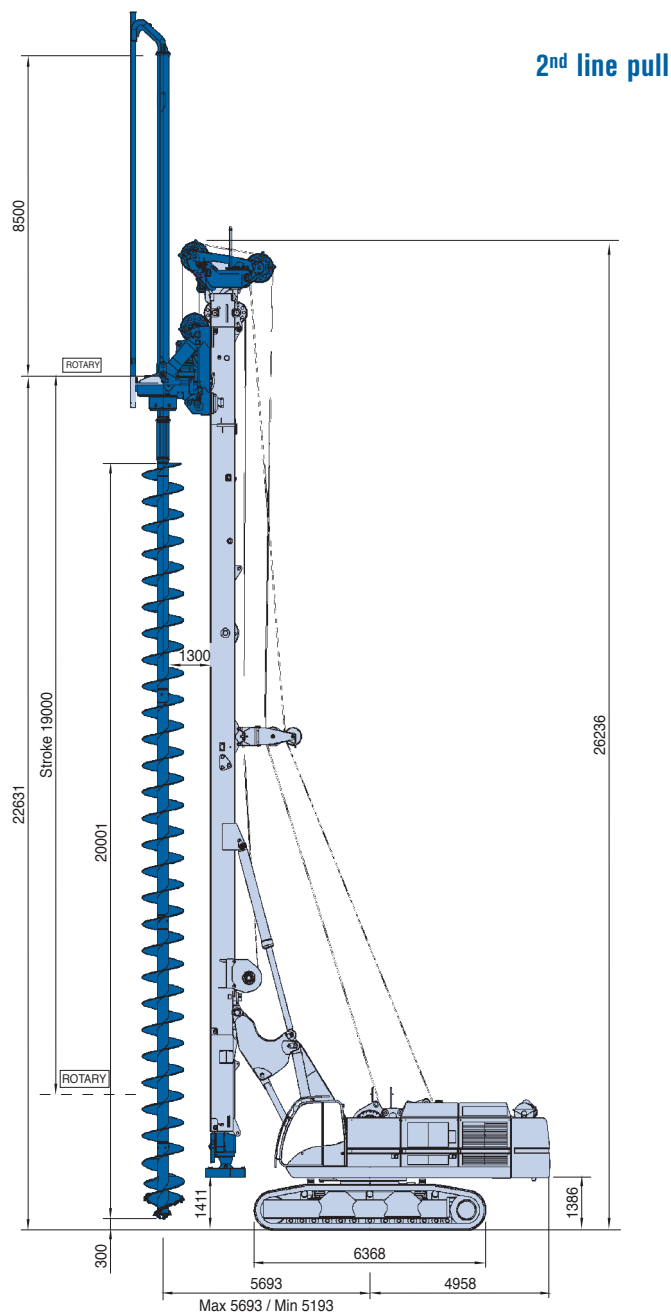


w/o crawlers



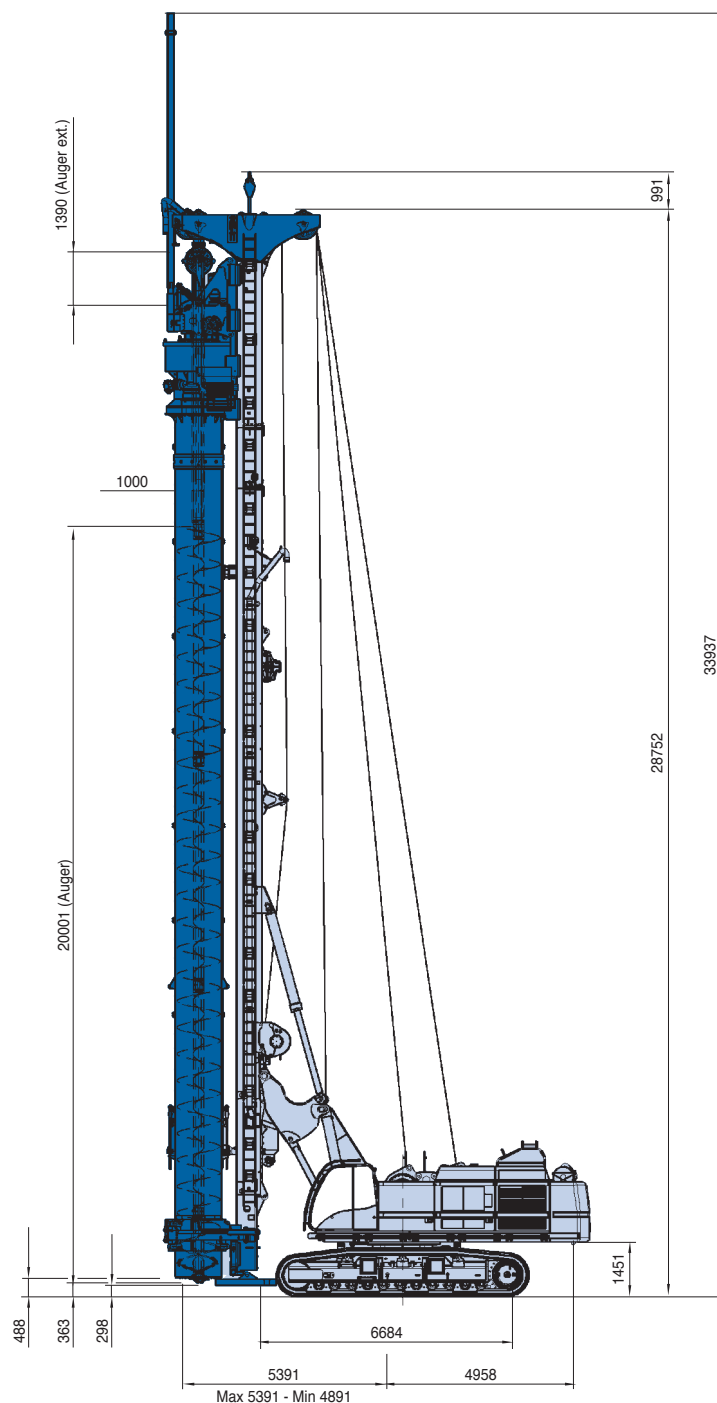
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CONTINUOUS FLIGHT AUGER (CFA) VERSION

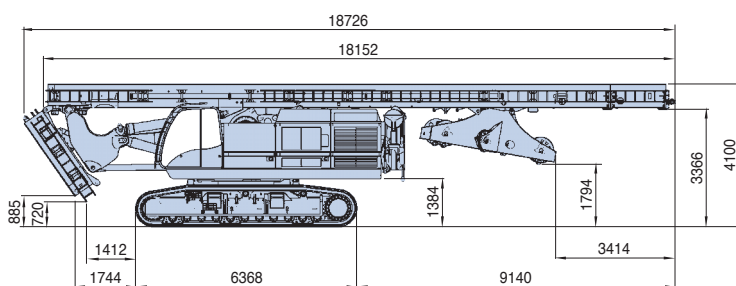
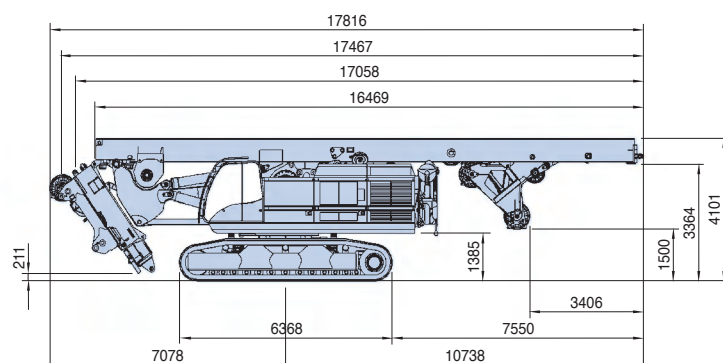


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CASED AUGERED PILES (CAP) VERSION



CFA Transport Condition





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SOILMEC S.P.A. - Beijing Repr. Office - P.R. China
SOILMEC CHINA - Wujiang - P.R. China
SOILMEC FAR EAST PTE.LTD - Singapore
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WATSON INC. - Texas - U.S.A.

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.

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