

SR-80

HYDRAULIC ROTARY RIG



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HYDRAULIC DRILLING RIG

The hydraulic drilling rig SR-80 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;
- **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-80 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 PILE (LDP)

* Emission certification:
EU stage III / US EPA Tier3

** Removing the mast bottom section



CONTROL CAMERA SYSTEM



DRILLING MATE SYSTEM

Main performances

Max pile diameter	mm	2000 / 2500 **
Max pile depth	m	77
Max casing diameter	mm	2000

Undercarriage

Overall length	mm	5680
Track shoe width	mm	900
Overall width (extended side frames)	mm	4700
Overall width (retracted side frames)	mm	3200
Overall width (removed side frames)	mm	2810
Ground pressure	MPa	0,105
Travelling speed	km/h	1,9

Diesel engine

Model	type	DEUTZ TCD 2015 V06 *
Rated power	kW (HP)	330 (442)

Hydraulic pumps

Main pumps	l/min	2x304
Auxiliary pumps	l/min	93, 65
Max working pressure	MPa	30

Main winch		Controlled descent	Free fall (Optional)
1st layer nominal line pull	kN	260	235
1st layer nominal rope speed	m/min	88	76
Rope diameter	mm	30	30

Auxiliary winch		Controlled descent	Free fall (Optional)
1st layer nominal line pull	kN	145	147
1st layer nominal rope speed	m/min	87	122
Rope diameter	mm	26	26

Rotary without shifting gear box (Standard)

Maximum nominal torque	kNm	292
Max spin off speed	rpm	117
Maximum drilling speed	rpm	25

Rotary 3 shifting gear box high speed (Optional)

Maximum nominal torque	kNm	292	157	32
Max spin off speed	rpm	-	-	-
Maximum drilling speed	rpm	28	51	107

Crowd cylinder (Standard)

Crowd force (pull down/pull up)	kN	201 / 264
Pull down stroke	mm	6500

Winch crowd system (Optional)

Crowd force (pull down/pull up)	kN	320 / 320
Pull down stroke	mm	15555



CONTINUOUS FLIGHT AUGER (CFA)4th line pull

Main performances		
Max pile diameter (w. roller type auger cleaner)	mm	1200 (1200)
Max pile depth (w. roller type auger cleaner)	m	27 (25,5)
Max extraction force	kN	800
Crowd force on auger	kN	370

CONTINUOUS FLIGHT AUGER (CFA)2nd line pull

Main performances		
Max pile diameter (w. roller type auger cleaner)	mm	1200 (1200)
Max pile depth (w. roller type auger cleaner)	m	23,5 (22)
Max extraction force	kN	800
Crowd force on auger	kN	320

CASED AUGERED PILES (CAP)

Main performances		
Max pile diameter	mm	800
Max pile depth	m	23,5 (17,5 cased)
Casing pull up/down	kN	370
Second rotary torque	kNm	190
Max casing speed	rpm	20
Max extraction force	kN	800

REVERSE CIRCULATION SYSTEM (RCDS)

Main performances		
Max pile diameter	mm	2000
Max pile depth	m	50
Max extraction force	kN	400

TURBOJET

Main performances		
Max pile diameter	mm	1200
Max pile depth (2nd/4th line pull)	m	22,4 / 25,1
Max extraction force (2nd/4th line pull)	kN	320 / 740
Crowd force on tool (2nd/4th line pull)	kN	320 / 370

WEIGHT & DIMENSIONS

⁽¹⁾ c/w kelly, w/o tool
⁽²⁾ c/w rotary, w/o counterweight and kelly
⁽³⁾ with/without track side frames
⁽⁴⁾ cylinder/winch crowd

		LDP version	CFA version	CAP version	RCDS version	TJ version
Transport width	mm	3200 / 2980 ⁽³⁾	3200 / 2980	3200 / 2980	3200 / 2980	3200 / 2980
Transport height	mm	3560 / 3210 ⁽³⁾	3560 / 3210	3560 / 3210	3560 / 3210	3560 / 3215
Transport length	mm	14700 / 14980 ⁽⁴⁾	16800	16800	14700	16800
Operating weight	ton	88 ⁽¹⁾	88	93	89	88
Minimum transport weight	ton	71 ⁽²⁾	-	-	-	-

KELLY BARS

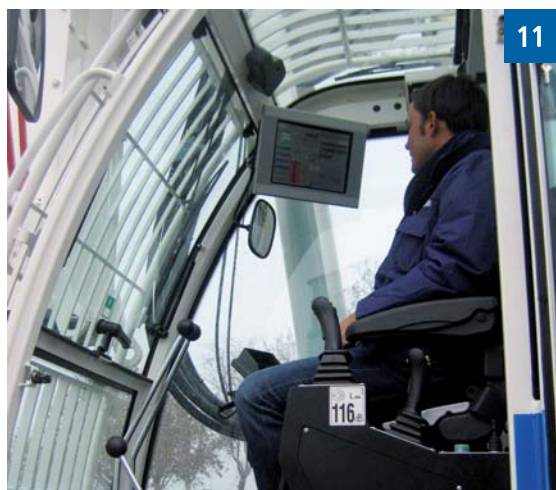
Standard dimension of tool connection is 150x150 mm
H = kelly stub height from ground level

Mechanical locking kelly bar – Ø 406 mm	elements n°	length m	depth m	weight ton	H height m
	3x	9,0	22,8	4,1	10,3
	3x	13,5	36,8	5,7	5,7
	4x	10,5	36,8	5,8	8,8
	4x	11,5	40,8	6,3	7,7
	4x	13,5	49,1	7,3	5,7
	4x	15,5	57,6	8,2	3,6
	4x	16,5	61,8	8,7	2,5
Friction kelly bar – Ø 406 mm	elements n°	length m	depth m	weight ton	H height m
	4x	10,5	36,8	5,8	8,8
	4x	11,5	40,8	6,3	7,7
	4x	13,5	49,1	7,3	5,7
	4x	15,5	57,6	8,2	3,6
	4x	16,5	61,8	8,7	2,5
	5x	10,5	45,9	6,1	8,9
	5x	11,5	51,3	6,6	7,8
	5x	13,5	61,7	7,6	5,8
	5x	15,5	72,0	8,5	3,6
	5x	16,5	77,2	9,0	2,7

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MAIN FEATURES

- 1 - **Undercarriage** with expandable and removable tracks from 3200 to 4700 mm by means of hydraulic cylinders. **Crawlers can be easily and quickly removed for transport purpose**
- 2 - **Turret** c/w DEUTZ TCD 2015 V06 diesel engine and sound proofed canopy, mounted on a 360° slew ring
- 3 - **Winch** assembly
- 4 - **New design parallelogram system, especially shaped** to bear crowd winch in transport condition. Allowing working radius adjustment always maintaining the mast in vertical position. C/w electronic device for automatic stop
- 5 - **Self-erecting mast** composed by an intermediate element 14,2 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 15,55 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 hydraulic cylinders. It can be easily and quickly removed for transport purpose
- 11- **New design cabin** with more ergonomic operator's place

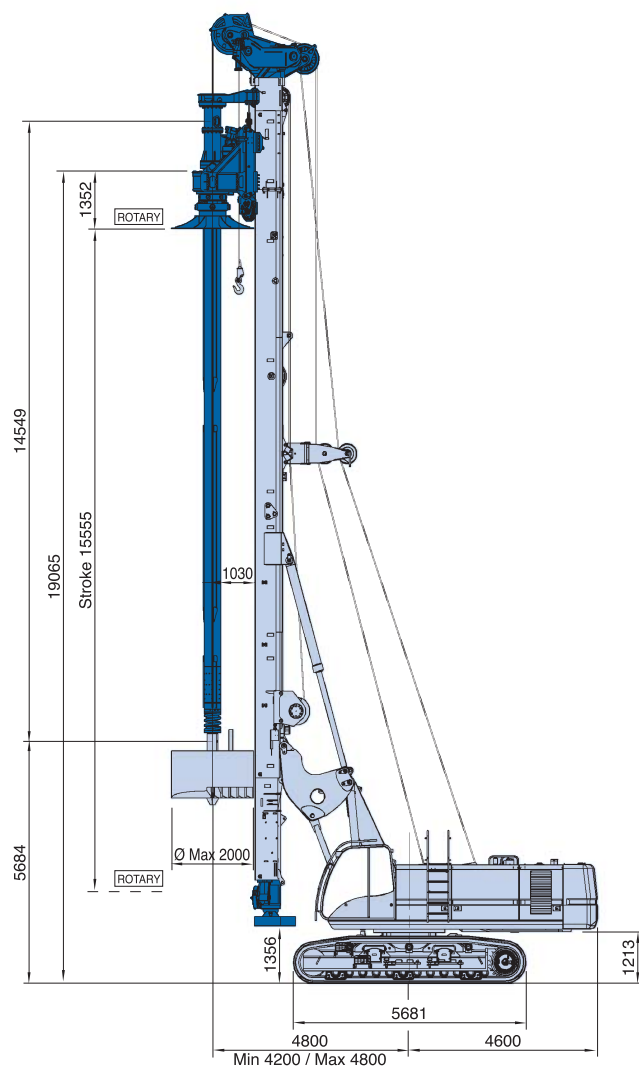
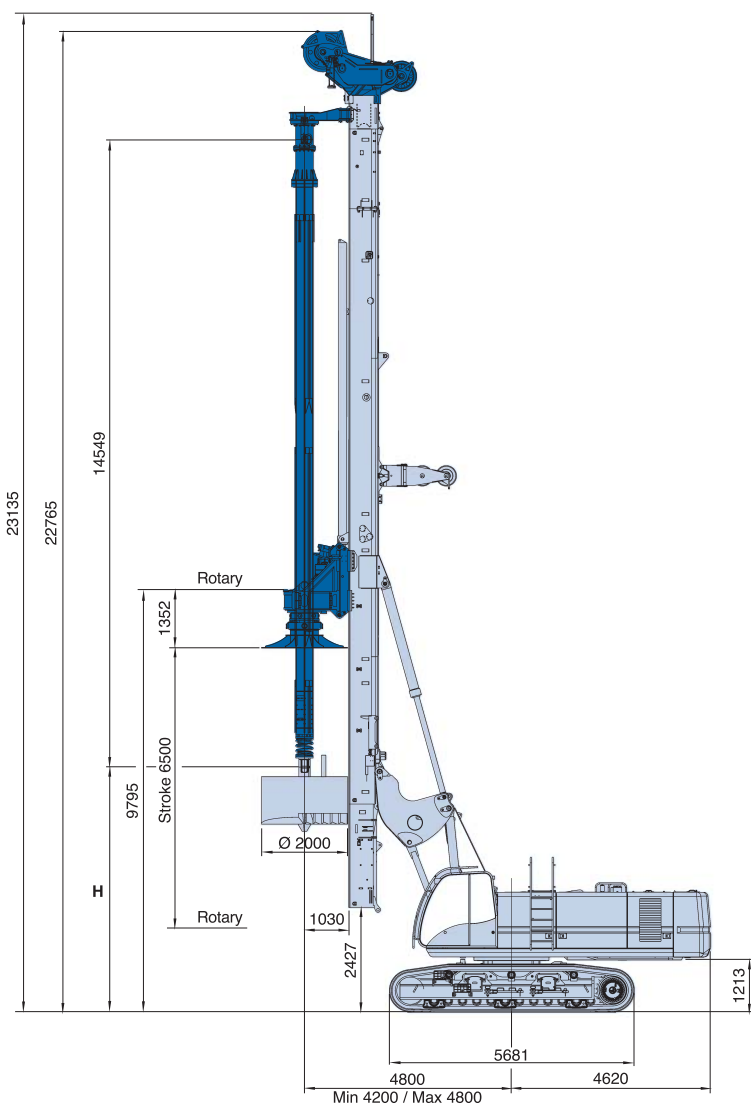


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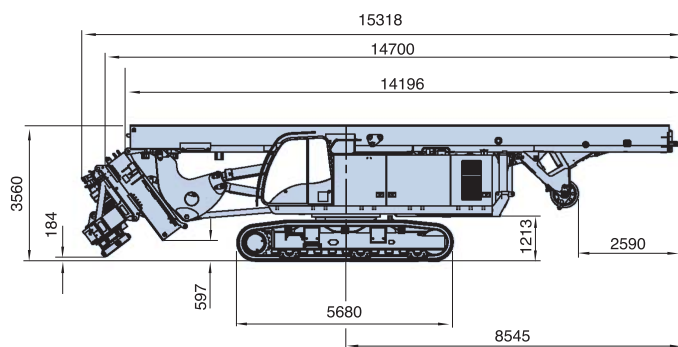
LARGE DIAMETER BORED PILE (LDP) VERSION

Crowd cylinder
(standard)

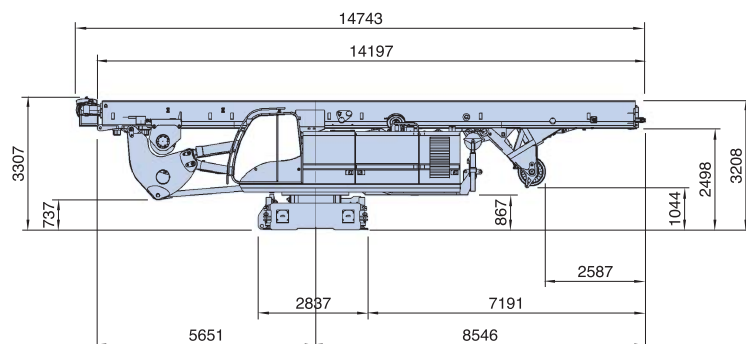
Winch crowd system
(optional)



LDP Transport Condition



w/o crawlers

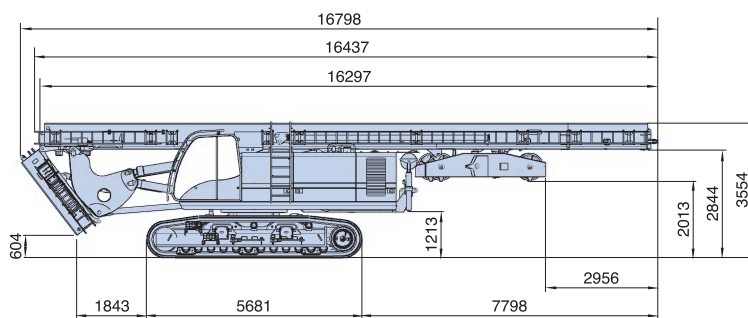


CONTINUOUS FLIGHT AUGER (CFA) VERSION



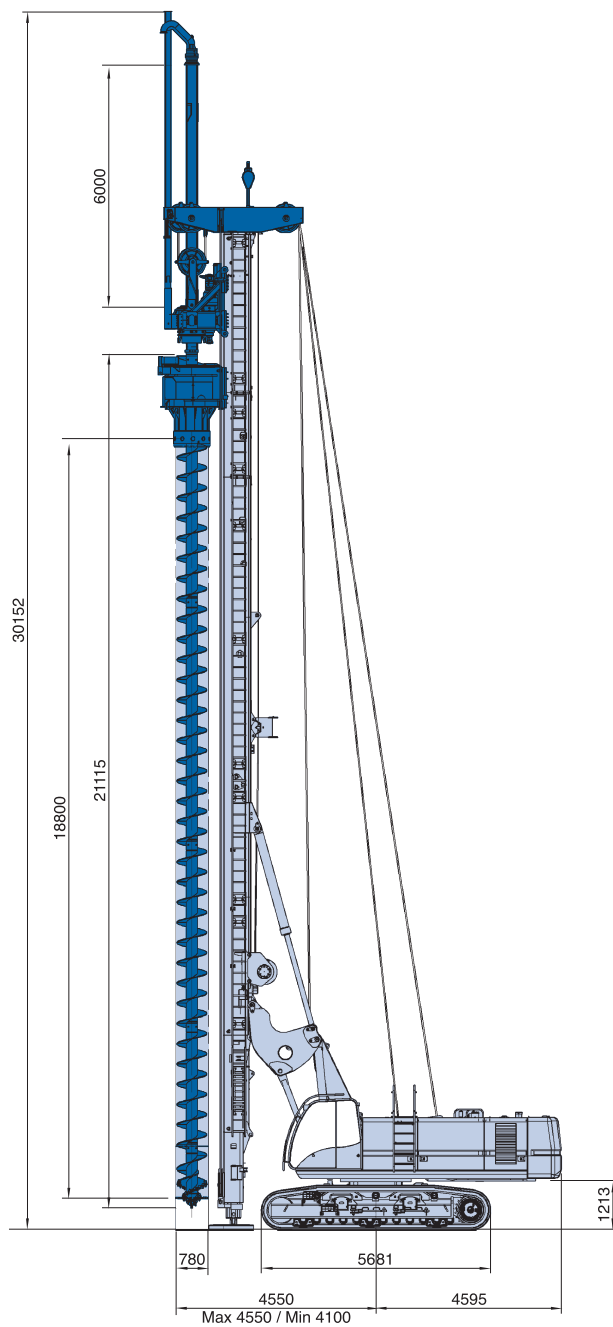
Technical drawing of the BTR-80 amphibious armored vehicle showing its dimensions. The drawing includes a side profile and a top-down view of the hull. Dimensions are provided in millimeters.

Dimension	Value (mm)
Overall length	15089
Length to rear wheel center	14698
Length to front wheel center	14197
Overall height	3554
Height to roof top	2844
Height to hull top	1390
Wheel track	1213
Wheelbase	5698
Front overhang	2587
Front overhang to front wheel center	5681
Front overhang to front wheel center (alternative)	6543
Overall width	8546



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CASED AUGERED PILE (CAP) VERSION



Pictures



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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

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