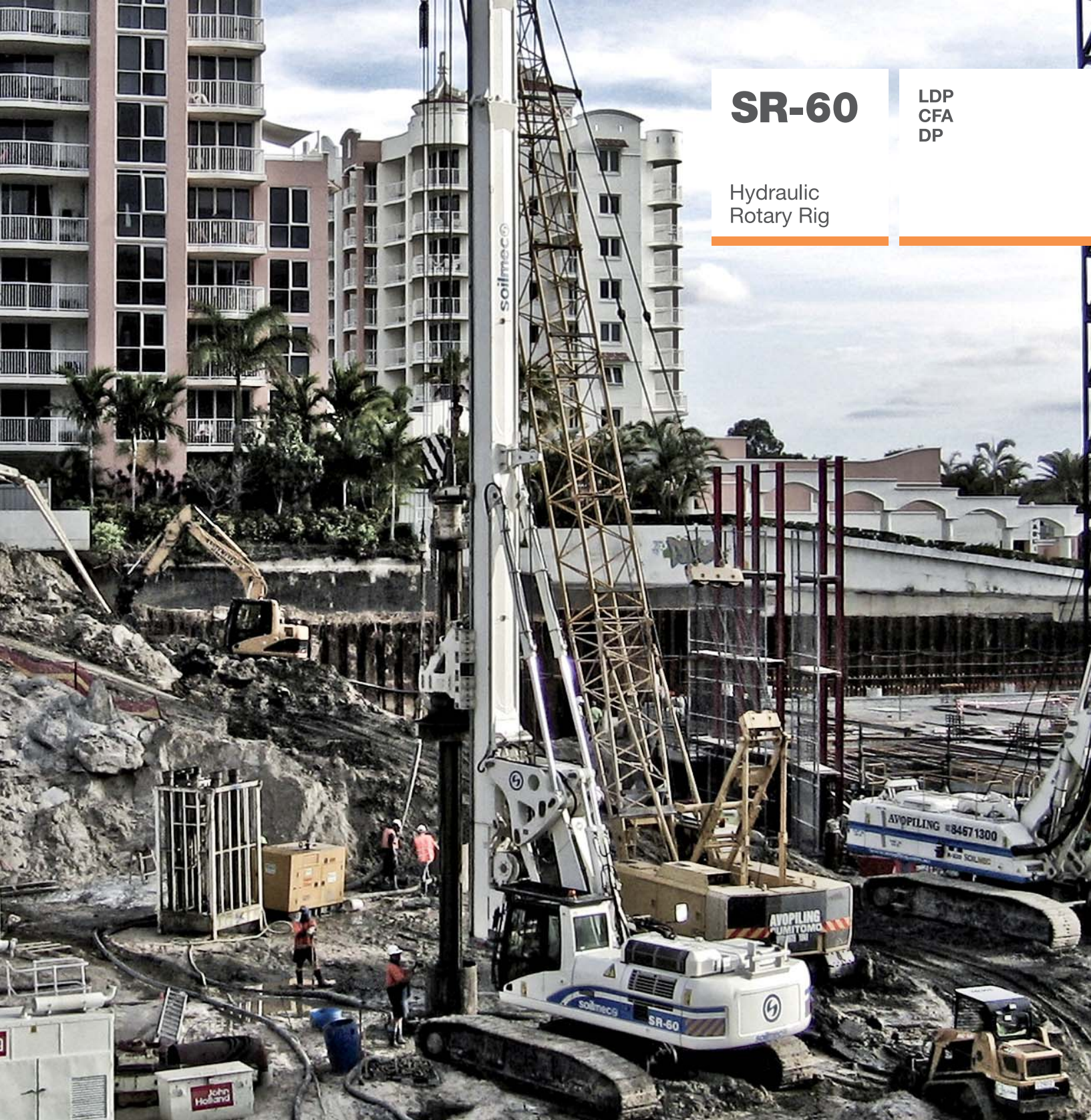




SR-60

LDP
CFA
DP

Hydraulic
Rotary Rig

Hydraulic Rotary Rig **SR-60**

soilmec 
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 wide transport requirements.

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.

CAT monitoring system

The CAT monitoring system ensure the hydraulic system and Diesel engine to 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 Winches
- 4 Parallelogram system
- 5 Self-erecting mast
- 6 Cathead
- 7 Crowd system
- 8 Rotary head
- 9 Telescopic kelly bar
- 10 Self erecting counterweight
- 11 Cab

CAT C9

Power @ 1800 rpm **261 kW** 350 HP

Operating weight (approx)
with kelly 4x13,5 m **65000 kg** 143299 lb

Torque **201 kNm** 143299 lbfft

Max diameter **1800 mm** 71 in

Max depth **71,4 m** 235.2 ft

LDP - KELLY DRILLING SYSTEM

Crowd Winch Version

The hydraulic drilling rig SR-60 has been specially designed to suit the following applications:

- **cased bored piles** with casing driven directly by 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;
- **DP (Displacement Piles)** *on demand*.



LDP - KELLY DRILLING SYSTEM

Crowd Cylinder Version



TECHNICAL DATA

	Overall height (Kelly system)	21530 mm	848 in
	Operating weight (approx) with kelly 4x13.5	65000 kg	143299 lb
	Rotary Drive - RD-200 single gear version		
	-Torque (nominal)	201 kNm	148249 lbf*ft
	-Speed of rotation (max)	31 rpm	31 rpm
	-Spinoff speed	162 rpm	162 rpm
	Crowd Cylinder system		
	-Crowd force pull down (fast speed)	154 kN	34620 lbf
	-Low Crowd force pull down (slow speed)	79 kN	17760 lbf
	-Crowd force pull up	280 kN	62945 lbf
	-Speed down	5,7 m/min	18,7 ft/min
	-Fast speed down	12,7 m/min	41,7 ft/min
	-Speed up	10,2 m/min	33,5 ft/min
	-Stroke (kelly system)	5600 mm	220 in
	Crowd winch system		
	-Crowd force (pull down) nominal	220 kN	49457 lbf
	-Crowd force (pull up) nominal	260 kN	58449 lbf
	-Stroke (kelly system)	13000 mm	512 in
	-Speed (kelly system)	10 m/min - 18 m/min	32,8 ft/min - 29,1 ft/min
	Main winch	controlled descent	controlled descent
	-Line pull (1st layer) nominal	210 kN	47209 lbf
	-Rope diameter	26 mm	1,03 in
	-Rope lenght	28 m / 65 m / 104 m	92 ft / 213 ft / 341 ft
	-Line speed (max.)	71 m/min	233 ft/min
	Auxiliary winch	controlled descent	controlled descent
	-Line pull (1st layer) nominal	80 kN	17984 lbf
	-Rope diameter	19 mm	0,75 in
	-Line speed (max.)	76 m/min	249 ft/min
	Auxiliary winch	free fall	free fall
	-Line pull (1st layer) nominal	61 kN	13713 lbf
	-Rope diameter	18 mm	0,71 in
	-Line speed (max.)	80 m/min	262 ft/min
	Mast inclination		
	-Backward/Forward/Lateral	12/4/3 °	12 /4 /3 °

Soilmec integrates high quality level components: Gearmatic, Hydromatic, Lohmann, Rothe erde, Trasmital, Zollern.

Standard equipment

- Rotary drive single gear version
- Main winch controlled descend type
- Main and auxiliary winches fitted with grooved drums
- Hoist limit switch on main and auxiliary winches
- Swivel for main rope
- Crowd in fast or slow mode
- Main rope parking point

Measuring and control equipment

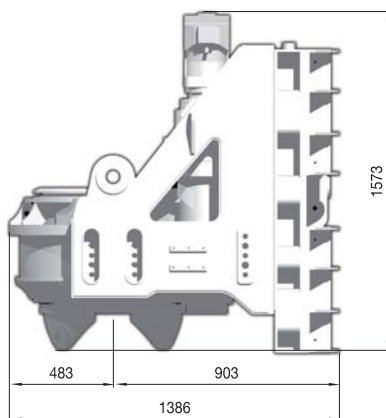
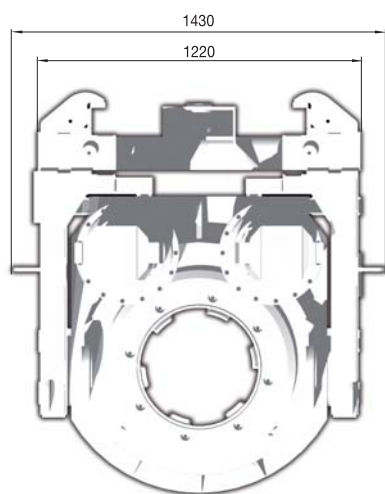
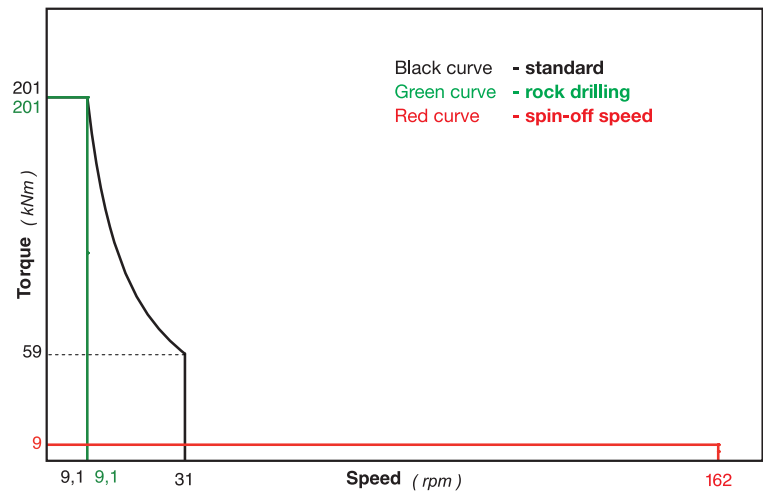
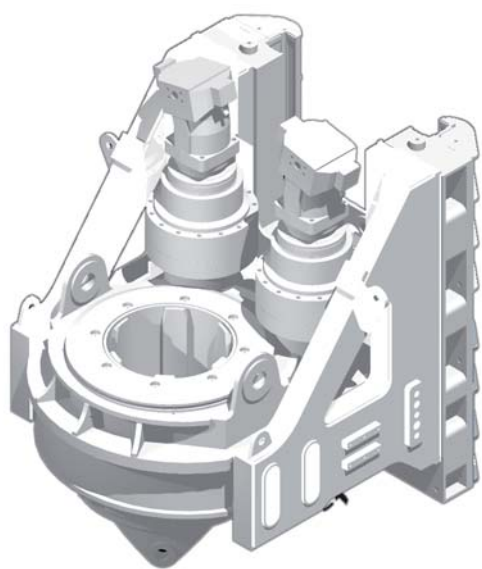
- Mast inclination measurement on X/Y axes (*digital/analog display*)
- Automatic vertical alignment of mast
- Depth measuring device on main winch
- Crowd pressure setting



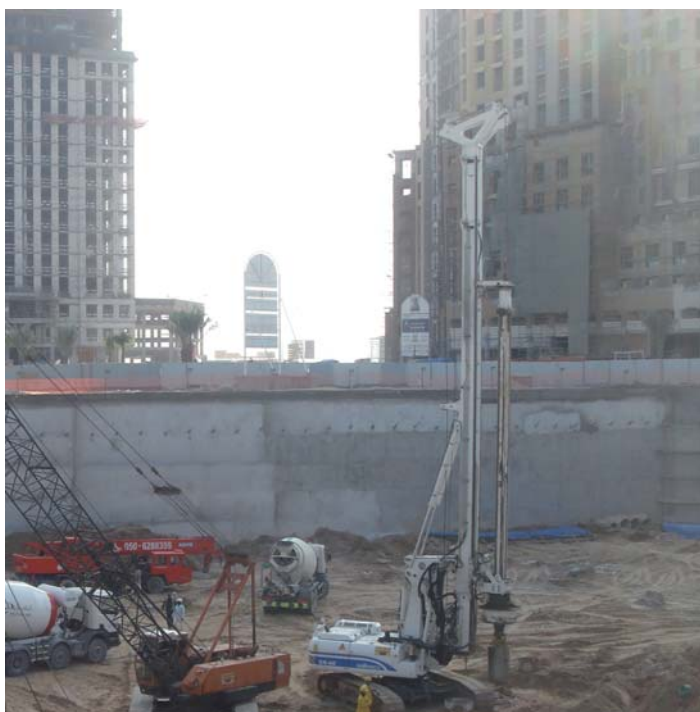
Crowd cylinder version

TECHNICAL DATA - ROTARY DRIVE

Rotary RD-200



Rotary	Weight	
Single gear version	4100 kg	9039 lbs



TECHNICAL DATA - BASE CARRIER



	Engine	CATERPILLAR C9 Acert	CATERPILLAR C9 Acert
	-Rated output ISO 3046-I	261 kW @ 1800 rpm	350 HP @ 1800 rpm
	-Engine conforms to Exhaust emission Standard	EU stage III A, US EPA Tier 3	EU stage III A, US EPA Tier 3
	-Diesel tank capacity	620 l	164 US gal
	-Sound pressure level in cabin (EN791 Annex A)	75 dB (A)	75 dB (A)
	-Sound power level (2000/14EG u. EN791, Annex A)	106 dB (A)	106 dB (A)
	Hydraulic system		
	-Hydraulic power output (measured at inlet to rotary drive)	190 kW	255 HP
	-Hydraulic pressure	33 MPa	4786 psi
	-Flow rates (main circuits)	2x 280 l/min	2x 74 US gal/min
	-Hydraulic oil tank capacity	320 l	85 US gal
	Undercarriage (retractable crawler frames)		
	-Crawler type	D6D	D6D
	-Overall width of crawlers retracted	3000 mm	118 in
	-Overall width of crawlers extended	4450 mm	175 in
	-Width of triple grouser track shoes	750 mm	30 in
	-Overall length of crawlers	5280 mm	208 in
	-Traction force	449 kN	100937 lbf
	-Travel speed	2,3 km/h	1,4 mph

* Soilmec integrates high quality level components: Berco, Rexroth, Trasmital.

Standard equipment

- Oscillator attachment brackets
- Engine emergency operation mode
- Engine diagnostic system
- Hydraulic functions diagnostic panel
- Transport securing rods on crawler units
- Access ladder on upper carriage
- On-board lighting set
- On-board tool set
- Electric refuelling pump
- High-comfort operator's cab (width: 950 mm)
- Protective roof grate (FOPS compliant)
- Air conditioning system
- Radio and CD player

Optional equipment

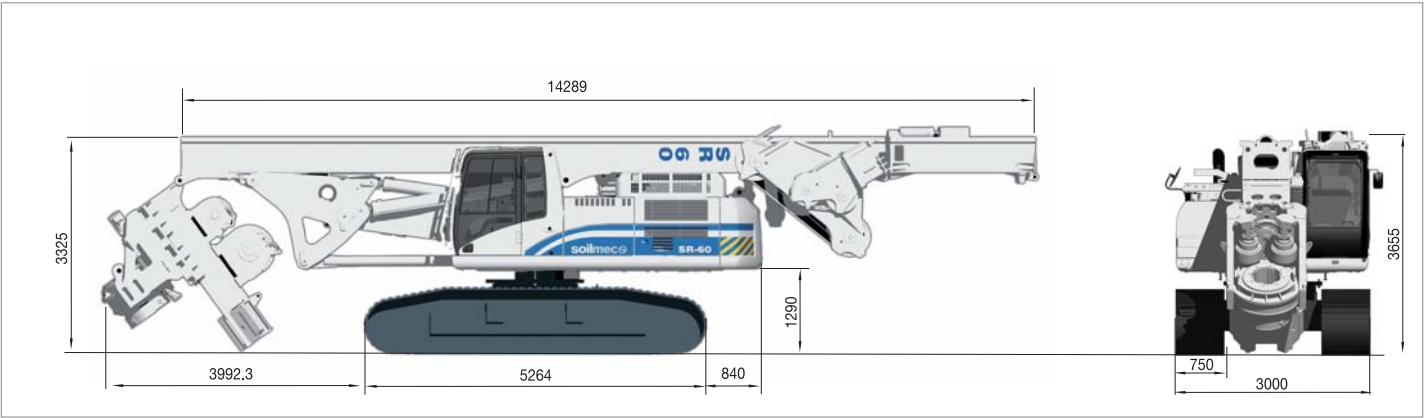
Base carrier

- Biodegradable oil
- Pressurized air conditioning system

Drilling Equipment

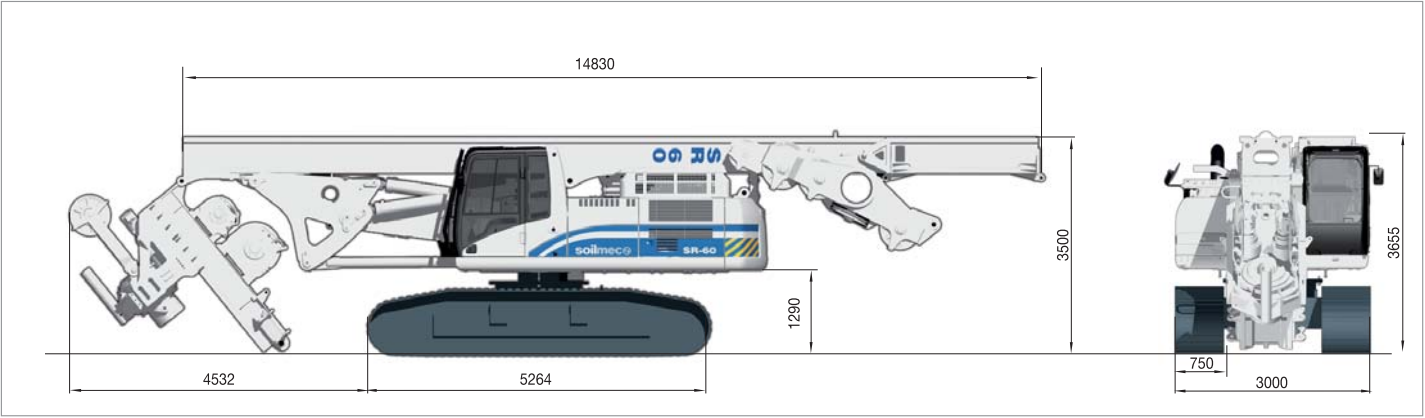
- Free fall auxiliary winch
- Swivel for auxiliary rope
- Central lubrication system
- Videocamera set

TRANSPORT DATA



Transport PDF version

Weight 50000 kg 110231 lb



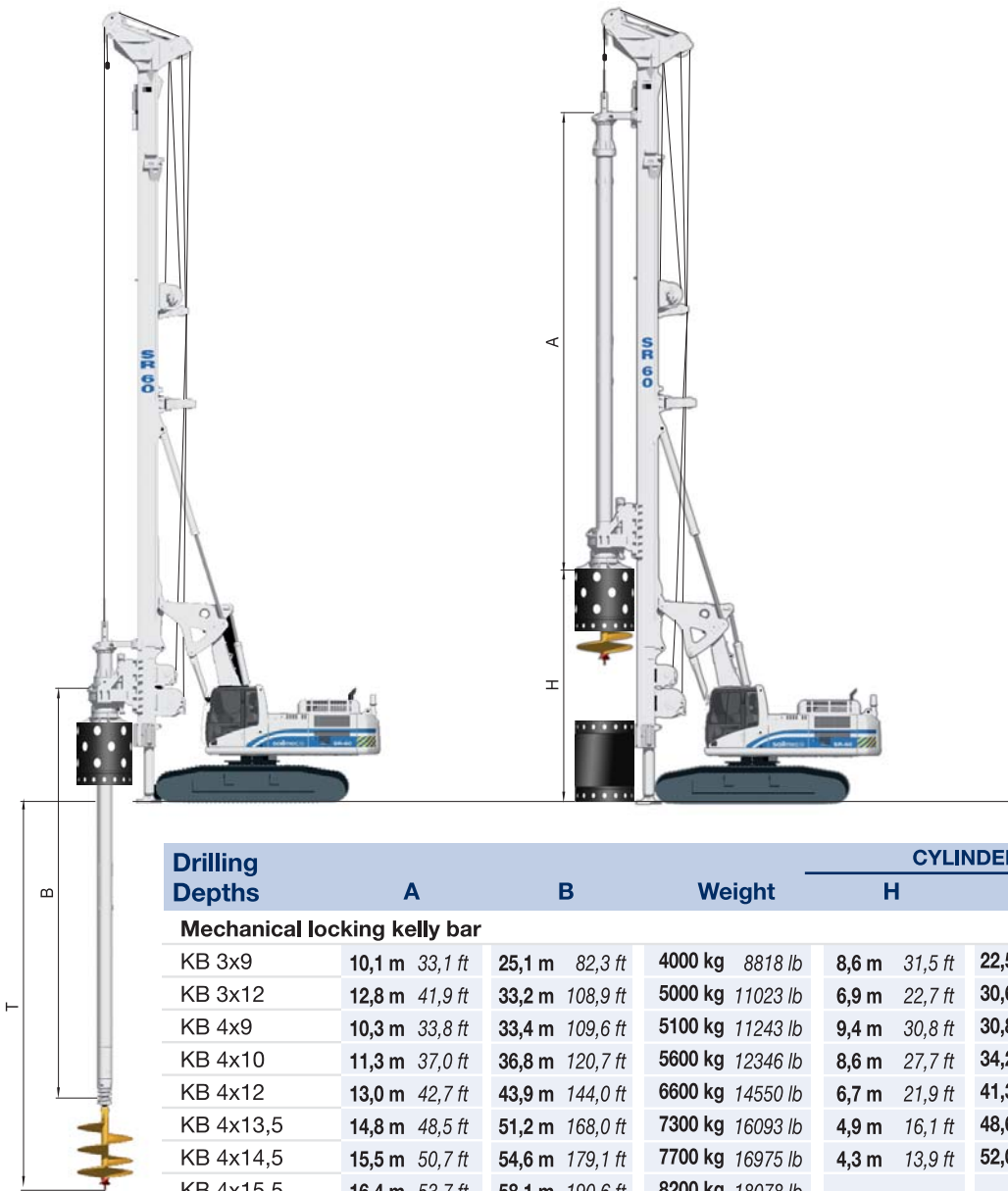
Transport CFA version

Weight 48773 kg 107525 lb



APPLICATIONS

LDP - Kelly Drilling System



Optional equipment:

- Hydraulic oscillator
VRM 150 KL
on demand

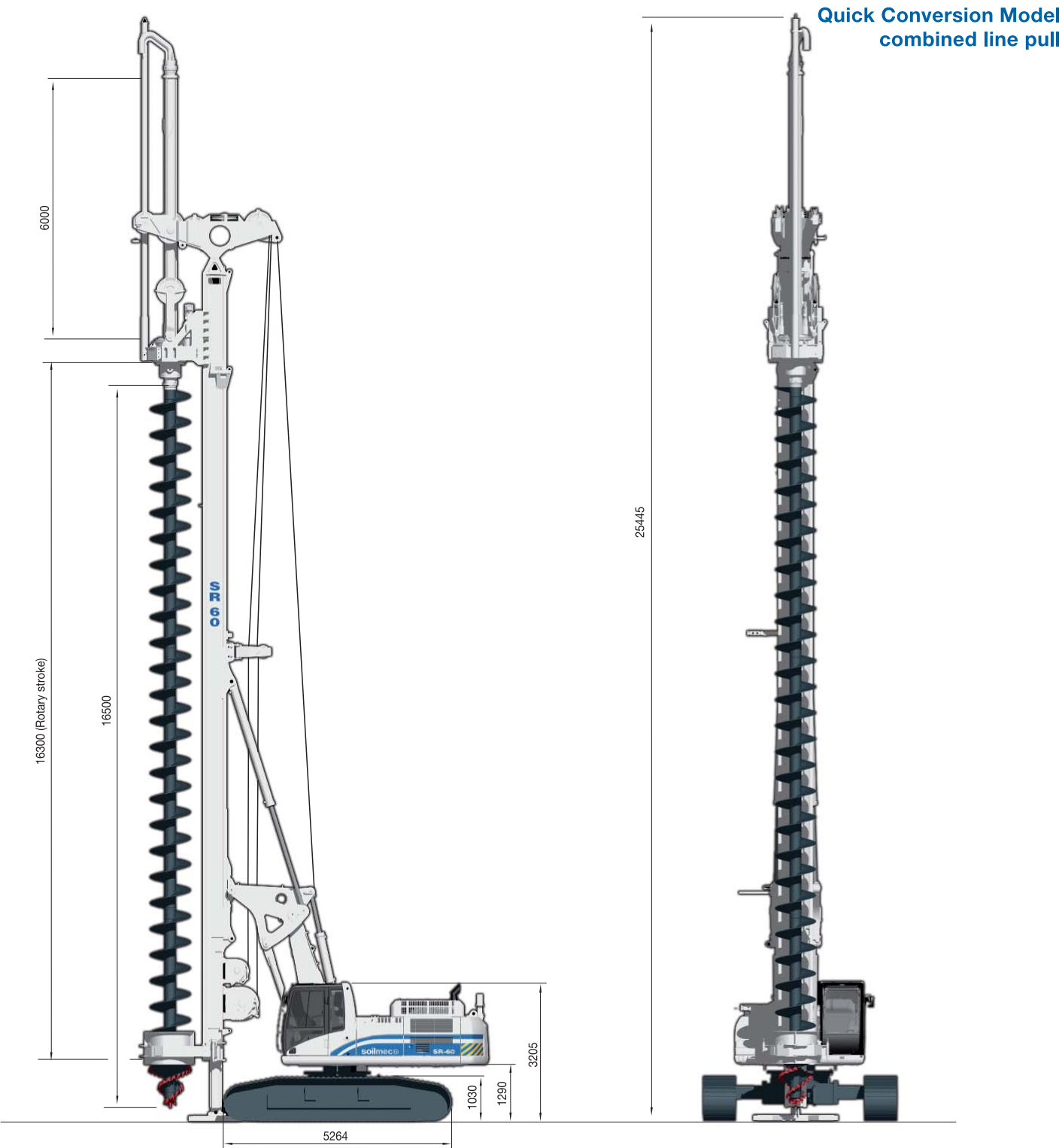
Drilling Depths	A		B		Weight		CYLINDER				WINCH			
							H		T		H		T	
Mechanical locking kelly bar														
KB 3x9	10,1 m	33,1 ft	25,1 m	82,3 ft	4000 kg	8818 lb	8,6 m	31,5 ft	22,5 m	73,8 ft	9,6 m	31,5 ft	23,6 m	77,4 ft
KB 3x12	12,8 m	41,9 ft	33,2 m	108,9 ft	5000 kg	11023 lb	6,9 m	22,7 ft	30,6 m	100,4 ft	6,9 m	22,7 ft	31,7 m	104,0 ft
KB 4x9	10,3 m	33,8 ft	33,4 m	109,6 ft	5100 kg	11243 lb	9,4 m	30,8 ft	30,8 m	101,1 ft	9,4 m	30,8 ft	31,9 m	104,7 ft
KB 4x10	11,3 m	37,0 ft	36,8 m	120,7 ft	5600 kg	12346 lb	8,6 m	27,7 ft	34,2 m	112,2 ft	8,4 m	27,7 ft	35,3 m	115,8 ft
KB 4x12	13,0 m	42,7 ft	43,9 m	144,0 ft	6600 kg	14550 lb	6,7 m	21,9 ft	41,3 m	135,5 ft	6,7 m	21,9 ft	42,4 m	139,1 ft
KB 4x13,5	14,8 m	48,5 ft	51,2 m	168,0 ft	7300 kg	16093 lb	4,9 m	16,1 ft	48,6 m	159,5 ft	4,9 m	16,1 ft	49,7 m	163,1 ft
KB 4x14,5	15,5 m	50,7 ft	54,6 m	179,1 ft	7700 kg	16975 lb	4,3 m	13,9 ft	52,0 m	170,6 ft	4,3 m	13,9 ft	53,1 m	174,2 ft
KB 4x15,5	16,4 m	53,7 ft	58,1 m	190,6 ft	8200 kg	18078 lb	-	-	-	-	3,3 m	11,0 ft	56,6 m	185,7 ft
Friction kelly bar														
KR 4x10,5*	11,4 m	37,5 ft	38,4 m	126,0 ft	5800 kg	12787 lb	8,3 m	27,1 ft	35,8 m	117,5 ft	8,3 m	27,1 ft	36,9 m	121,1 ft
KR 4x11*	12,3 m	40,3 ft	40,8 m	133,9 ft	6100 kg	13448 lb	7,4 m	24,3 ft	38,2 m	125,3 ft	7,4 m	24,3 ft	39,3 m	129,0 ft
KR 4x11,5*	12,8 m	42,0 ft	42,8 m	140,4 ft	6300 kg	13889 lb	6,9 m	22,7 ft	40,2 m	131,9 ft	6,9 m	22,7 ft	41,3 m	135,5 ft
KR 4x12,5*	13,6 m	44,5 ft	46,1 m	151,2 ft	6800 kg	14991 lb	6,1 m	20,1 ft	43,5 m	142,7 ft	6,1 m	20,1 ft	44,6 m	146,3 ft
KR 4x13,5*	14,6 m	47,8 ft	51,1 m	167,7 ft	7300 kg	16093 lb	5,1 m	16,8 ft	48,5 m	159,1 ft	5,1 m	16,8 ft	49,6 m	162,7 ft
KR 4x14,5*	15,5 m	50,8 ft	54,8 m	179,8 ft	7700 kg	16975 lb	4,2 m	13,8 ft	52,2 m	171,3 ft	4,2 m	13,8 ft	53,3 m	174,9 ft
KR 5x10,5*	11,3 m	37,1 ft	47,7 m	156,5 ft	6100 kg	13448 lb	8,4 m	27,5 ft	45,1 m	148,0 ft	8,4 m	27,5 ft	46,2 m	151,6 ft
KR 5x11*	12,0 m	39,4 ft	50,0 m	164,0 ft	6400 kg	14109 lb	7,7 m	25,2 ft	47,4 m	155,5 ft	7,7 m	25,2 ft	48,5 m	159,1 ft
KR 5x11,5*	12,4 m	40,8 ft	53,1 m	174,2 ft	6600 kg	14550 lb	7,3 m	23,8 ft	50,5 m	165,7 ft	7,3 m	23,8 ft	51,6 m	169,3 ft
KR 5x12*	13,0 m	42,7 ft	55,0 m	180,4 ft	6900 kg	15212 lb	6,7 m	21,9 ft	52,4 m	171,9 ft	6,7 m	21,9 ft	53,5 m	175,5 ft
KR 5x13*	14,2 m	46,5 ft	62,0 m	203,4 ft	7300 kg	16093 lb	5,5 m	18,1 ft	59,4 m	194,9 ft	5,5 m	18,1 ft	60,5 m	198,5 ft
KR 5x13,5*	14,4 m	47,4 ft	63,5 m	208,3 ft	7600 kg	16755 lb	5,3 m	17,2 ft	60,9 m	199,8 ft	5,3 m	17,2 ft	62,0 m	203,4 ft
KR 5x14*	14,8 m	48,7 ft	63,8 m	209,3 ft	7800 kg	17196 lb	4,9 m	15,9 ft	61,2 m	200,8 ft	4,9 m	15,9 ft	62,3 m	204,4 ft
KR 5x14,5*	15,3 m	50,3 ft	67,5 m	221,5 ft	8100 kg	17857 lb	4,4 m	14,4 ft	64,9 m	212,9 ft	4,4 m	14,4 ft	66,0 m	216,6 ft
KR 5x15,5*	16,4 m	53,9 ft	73,2 m	240,2 ft	8500 kg	18739 lb	-	-	-	-	3,3 m	10,8 ft	71,7 m	235,3 ft

* rotary head to be reset

Drilling Diameters	CYLINDER		WINCH	
Uncased	1800 mm	70,9 in	1500 mm	59,1 in
Cased	1500 mm	59,1 in	1500 mm	59,1 in

APPLICATIONS

CFA - Continuous Flight Auger



	4-part line pull		4-part line pull	
	0 m	0 ft	6 m	19,7 ft
Auger extension				
Drilling depth with auger cleaner	14,5 m	47,6 ft	20,5 m (14,5+6)	67,3 ft (73,9+19,6)
Drilling depth without auger cleaner	16 m	52,5 ft	22,0 m (16+6)	72,2 ft (68,9+19,6)
Stroke	16300 mm	642 in	16300 mm	642 in
Max drilling diameter	1100 mm	43,3 in	1000 mm	39,4 in
Max extraction force	560 kN	125891 lbf	560 kN	125890,8 lbf
Max crowd force	90 kN*	20232 lbf*	90 kN*	20232 lbf*
Continuous flight auger length including starter auger	16800 mm	661 in	16800 mm	661 in
Operating weight (approx. w/o augers)	59000 kg	130071 lb	59000 kg	130071 lb

* option: max depth reduced by 1.5 m



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