

SR-95 HIGH TECHNOLOGY

soilmec
Drilling and Foundation Equipment

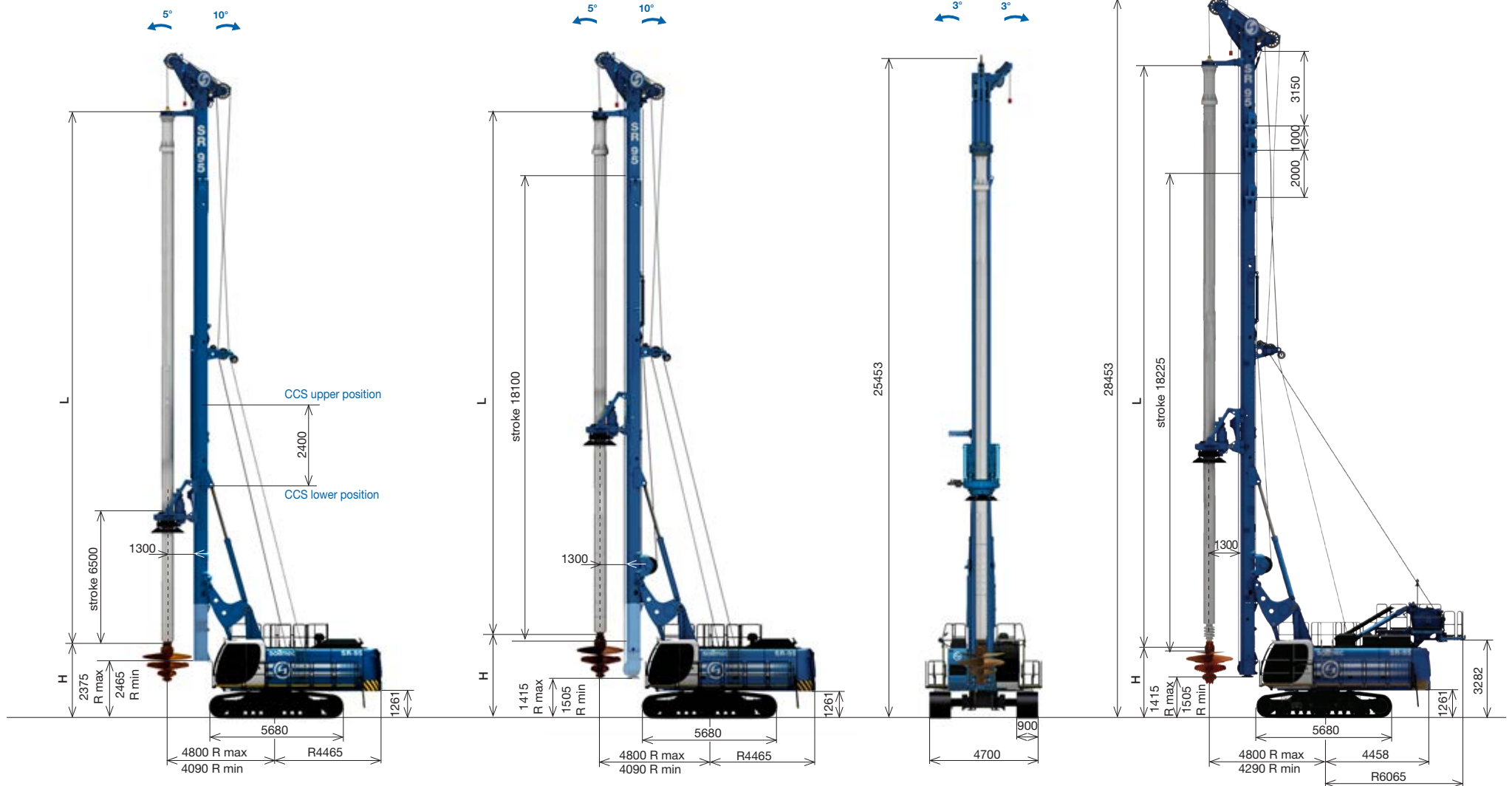


Large Diameter Piles

Cylinder Crowd System

Winch Crowd System

Extended version



Drawing are not to scale. All technical data are purely indicative and subject to change without notice.

LDP - Large Diameter Piles - CCS version		
Operating weight w/o kelly bar	90800 kg	200178 lb
Max pile diameter (tool in front of the mast)	2100 mm	83 in
Max pile diameter c/w increased drilling axis ¹ (tool in front of the mast)	2500 mm	98 in
Max pile diameter w/o lower mast section ¹⁻² (tool below the mast)	3000 mm	118 in
Max pile diameter c/w increased drilling axis ¹ & w/o lower mast section ¹⁻² (tool below the mast)	3400 mm	134 in
Working radius ⁴	4090 - 4800 mm	164 - 192 in
Tail swing radius	4465 mm	176 in
Max pile depth - friction kelly	89 m	292 ft
Max pile depth - locking kelly	70 m	230 ft
Max pile depth - locking & friction kelly	81,4 - 101,7 m	267 - 334 ft
Special version with 3 m (9.8 ft) mast ext.		
LDP - Large Diameter Piles - WCS version		
Operating weight w/o kelly bar	92900 kg	204807 lb
Max pile diameter (tool in front of the mast)	1900 mm	75 in
Max pile diameter c/w increased drilling axis ¹ (tool in front of the mast)	2300 mm	91 in
Max pile diameter w/o lower mast section ¹⁻³ (tool below the mast)	3000 mm	118 in
Max pile diameter c/w increased drilling axis ¹ & w/o lower mast section ¹⁻³ (tool below the mast)	3400 mm	134 in
Working radius ⁴	4090 - 4800 mm	164 - 192 in
Tail swing radius	4465 mm	176 in
Max pile depth - friction kelly	89 m	292 ft
Max pile depth - locking kelly	70 m	230 ft
Max pile depth - locking & friction kelly	81,4 - 101,7 m	267 - 334 ft
Special version with 3 m (9.8 ft) mast ext.		
LDP - Large Diameter Piles - Extended version - Special arrangement ⁵		
Operating weight - w/o kelly bar - CCS version	98500 kg	217153 lb
Operating weight - w/o kelly bar - WCS version	100600 kg	221783 lb
Working radius ⁴	4090 - 4800 mm	164 - 192 in
Tail swing radius	6065 mm	239 in
Max pile depth - locking & friction kelly	81,4 - 101,7 m	267 - 334 ft

¹ special kit on request

² cylinder crowd in upper position, depth reduced by 2,4 m (7.8 ft)

³ rotary stroke and depth reduced by 2,4 m (7.8 ft)

⁴ working radius with increased drilling axis: 4290 - 4800 mm (169 - 189 in)

⁵ upgraded c/w SW350 Single layer - pull up force 350 kN (78683 lb)

Kelly bars for LDP

	Kelly type	Kelly dimens.	Drilling Deph 1		Weight		L		H ⁵					
									CCS_low		CCS_high		WCS	
			m	ft	t	t(US)	m	ft	m	ft	m	ft		
3 parts ²	BL HD	3 x 10,5	27,6	90.6	6,6	7.0	12,0	39.4	8,6	28.2	11,0	36.1	13,9	45.6
	BL HD	3 x 13,5	36,9	121.1	8,0	8.8	15,1	49.5	8,6	28.2	11,0	36.1	10,8	35.4
	BL HD	3 x 15,5	43,2	141.7	8,9	9.8	17,1	56.1	8,6	28.2	8,8	28.9	8,8	28.9
	BL HD	3 x 16,5	46,0	150.9	9,4	10.4	18,1	59.4	7,8	25.6	7,8	25.6	7,8	25.6
	BL HD	3 x 17,5	48,9	160.4	9,9	11.5	19,0	62.3	6,9	22.6	6,9 ⁴	22.6 ⁴	6,9	22.6
	BL HD	3 x 18	51,0	167.3	10,1	11.1	19,7	64.6	6,2	20.3	6,2 ⁴	20.3 ⁴	6,2	20.3
	BL HD	3 x 18,5	52,3	171.6	10,4	11.8	20,2	66.3	5,7	18.7	5,7 ⁴	18.7 ⁴	5,7	18.7
	BL HD ⁴	3 x 20	55,9	183.4	11,1	12.2	21,4	70.2	4,5	14.8	-	-	4,5	14.8
	BL HD ⁴	3 x 21,5	60,9	199.8	11,8	13.0	23,0	75.5	2,9	9.5	-	-	2,9	9.5
4 parts ²	BL HD	4 x 10,5	37,2	122.0	6,9	7.6	12,0	39.4	8,8	28.9	11,2	36.7	13,9	45.6
	BL HD	4 x 13,5	49,5	162.4	8,4	9.3	15,1	49.5	8,8	28.9	11,2	36.7	10,8	35.4
	BL HD	4 x 15,5	57,6	189.0	9,4	10.4	17,1	56.1	8,8	28.9	8,8	28.9	8,8	28.9
	BL HD	4 x 16,5	61,5	201.8	9,9	10.9	18,1	59.4	7,8	25.6	7,8	25.6	7,8	25.6
	BL HD	4 x 17,5	65,4	214.6	10,4	11.5	19,0	62.3	6,9	22.6	6,9 ⁴	22.6 ⁴	6,9	22.6
	BL HD	4 x 18	68,1	223.4	10,7	11.8	19,7	64.6	6,2	20.3	6,1 ⁴	20.0 ⁴	6,2	20.3
	BL HD	4 x 18,5	69,9	229.3	11,0	12.1	20,2	66.3	5,7	18.7	5,7 ⁴	18.7 ⁴	5,7	18.7
	BL HD ⁴	4 x 19,5	74,0	242.8	11,5	12.7	21,1	69.2	4,8	15.7	-	-	4,8	15.7
	BL HD ⁴	4 x 20	74,7	245.1	11,7	12.9	21,4	70.2	4,5	14.8	-	-	4,5	14.8
5 parts ³	BL HD ⁴	4 x 21,5	81,4	267.1	12,5	13.8	23,0	75.5	2,9	9.5	-	-	2,9	9.5
	FR HD	5 x 10,5	46,6	152.9	7,7	8.4	12,0	39.4	8,8	28.9	11,2	36.7	13,9	45.6
	FR HD	5 x 13,5	62,4	204.7	9,5	10.5	15,1	49.5	8,8	28.9	11,2	36.7	10,8	35.4
	FR HD	5 x 15,5	72,3	237.2	10,8	11.9	17,1	56.1	8,8	28.9	8,8	28.9	8,8	28.9
	FR HD	5 x 16,5	77,0	252.6	11,4	12.6	18,1	59.4	7,9	25.6	7,8	25.6	7,8	25.6
	FR HD	5 x 17,5	81,9	268.7	12,0	13.3	19,0	62.3	6,9	22.6	6,9 ⁴	22.6 ⁴	6,9	22.6
	FR HD	5 x 18	85,3	279.9	12,4	13.6	19,7	64.6	6,1	20.0	6,1 ⁴	20.0 ⁴	6,2	20.3
	FR HD	5 x 18,5	87,5	287.1	12,7	14.0	20,2	66.3	5,7	18.7	5,7 ⁴	18.7 ⁴	5,7	18.7
	FR HD ⁴	5 x 19	88,9	291.7	13,0	14.3	20,4	66.9	5,5	18.0	5,5 ⁴	18.0 ⁴	5,5	18.0
FR HD ⁴	5 x 20	94,2	309.1	13,6	15.0	21,4	70.2	4,5	14.8	-	-	4,5	14.8	
FR HD ⁴	5 x 21,5	101,7	333.7	14,6	16.0	22,9	75.1	2,9	9.5	-	-	3,0	9.8	

¹ drilling depth is calculated with kelly bar c/w stub 200x200 & drilling tool 1500 mm (4.9 ft) long; drilling depth is reduced by 2.4 m (7.8ft) without lower mast section or CCS in upper position; drilling depth is reduced by 0.1 m (0.33ft) with increased drilling axis.

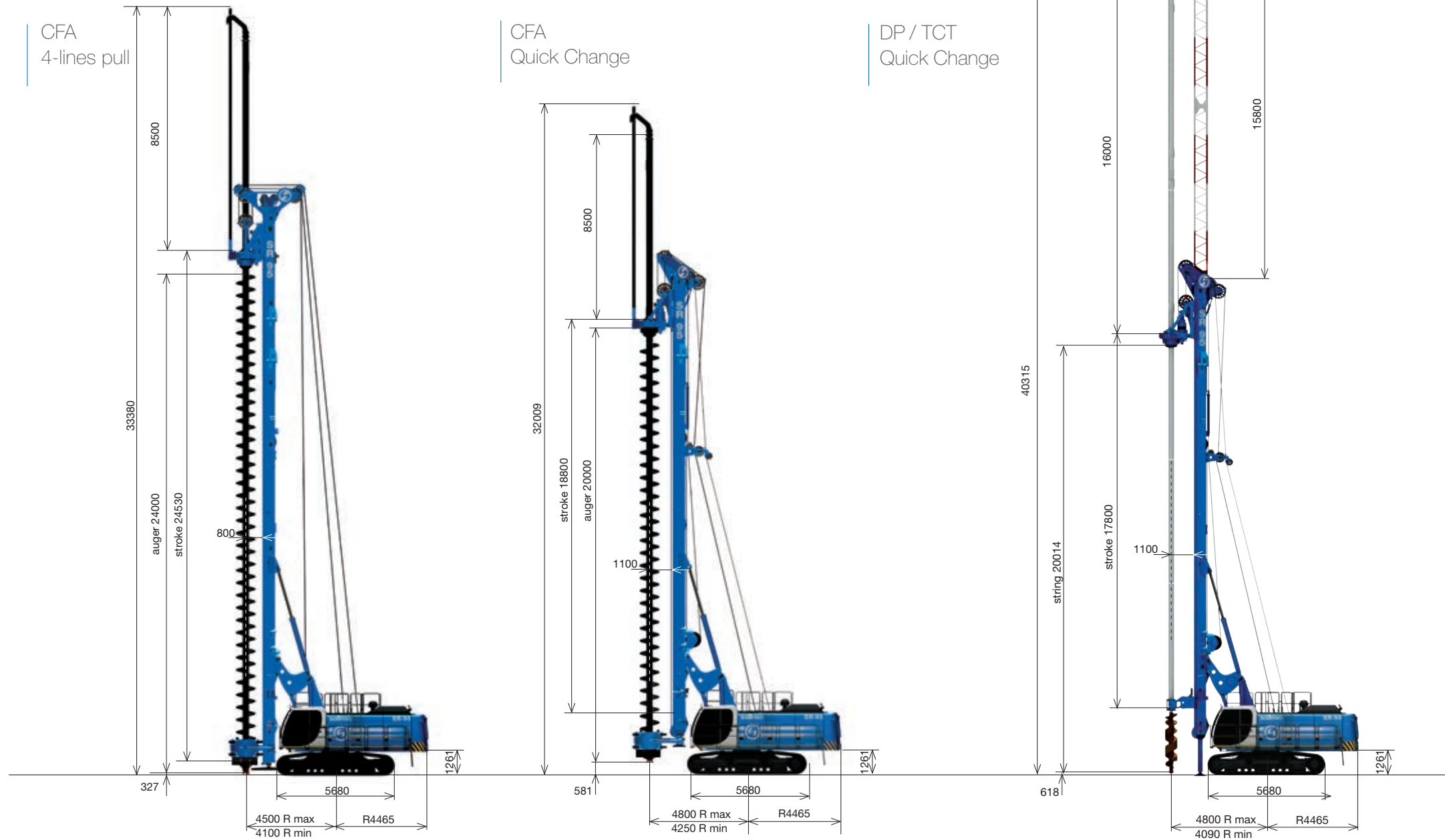
² friction type is also available with the same dimension

³ rotary torque derated

⁴ available only c/w 3 m (9.8 ft) mast extension kit

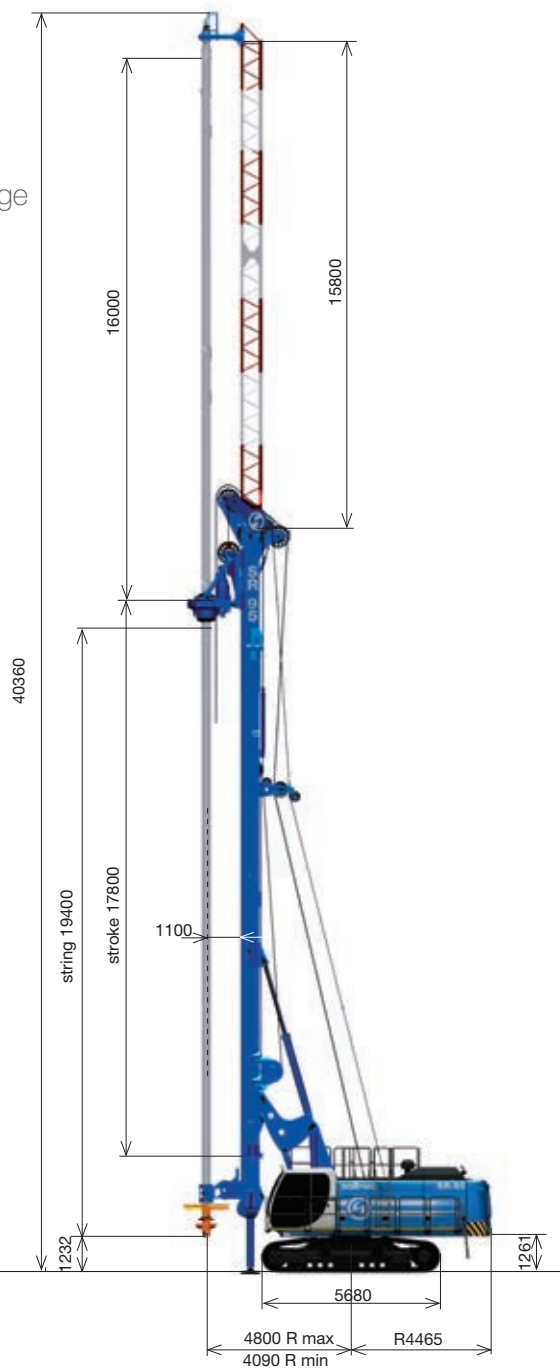
⁵ clearance c/w 3 m (9.8 ft) mast extension kit.

CFA / DP / TJ applications



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TJ
Quick Change



CFA - Continuous Flight Auger - 4-lines pull	standard version		extended version ³	
Operating weight (c/w 8,5 m - 28 ft sleeve extension, w/o auger)	95900 kg	211421 lb	96400 kg	212526 lb
Max pile diameter	1200 mm	47.24 in	1200 mm	47.24 in
Max length of auger	24 m	79 ft	26 m	85 ft
Max length of sleeve extension	8,5 m	28 ft	8,5 m	28 ft
Max pile depth (c/w 8,5 m - 28 ft sleeve extension) ¹	32,5 m	107 ft	34,5 m	113 ft
Nominal extraction force	1110 kN	249534 lbf	1110 kN	249534 lbf
Additional crowd force on auger ²	100/484 kN	22481/108806 lbf	100 / 484 kN	22481/108806 lbf

CFA - Continuous Flight Auger - Quick change	standard version		extended version ³	
Operating weight (c/w 8,5 m - 28 ft sleeve extension, w/o auger)	96000 kg	211642 lb	98200 kg	216494 lb
Max pile diameter	1200 mm	47.24 in	1200 mm	47.24 in
Max length of auger	20 m	66 ft	23 m	75 ft
Max length of sleeve extension	8,5 m	28 ft	8,5 m	28 ft
Max pile depth (c/w 8,5 m - 28 ft sleeve extension) ¹	26,5 m	87 ft	29,5 m	97 ft
Nominal extraction force	1000 kN	224805 lbf	1000 kN	224805 lbf
Additional crowd force on auger	484 kN	108806 lbf	484 kN	108806 lbf

DP - Displacement pile - Quick change ⁴	standard version		extended version ³	
Operating weight (c/w 8,5 m - 28 ft sleeve extension, w/o string)	96500 kg	212746 lb	98700 kg	217596 lb
Max recommended DP/TCT pile diameter	600 mm	23.62 in	600 mm	23.62 in
Max recommended TCT pile diameter	800 mm	31.50 in	800 mm	31.50 in
Max length of string	20 m	66 ft	23 m	75 ft
Max pile depth w/o lattice boom extension c/w 8,5 m (27.8 ft string extension)	25,5 m	84 ft	28,5 m	94 ft
Lattice boom extension length	16 m	52 ft	n.a.	n.a.
Max pile depth c/w lattice boom extension	33 m	108 ft	n.a.	n.a.

TJ - Turbo jet - Quick change ⁴	standard version		extended version ³	
Operating weight (c/w 8,5 m - 28 ft sleeve extension, w/o string)	96500 kg	212746 lb	98700 kg	217596 lb
Max recommended TJ pile diameter	1900 mm	74.80 in	1900 mm	74.80 in
Max length of string	20 m	66 ft	23 m	75 ft
Max pile depth w/o lattice boom extension c/w 6 m (19,6 ft string extension)	23 m	75 ft	26 m	85 ft
Lattice boom extension length	16 m	52 ft	n.a.	n.a.
Max pile depth c/w lattice boom extension	33 m	108 ft	n.a.	n.a.

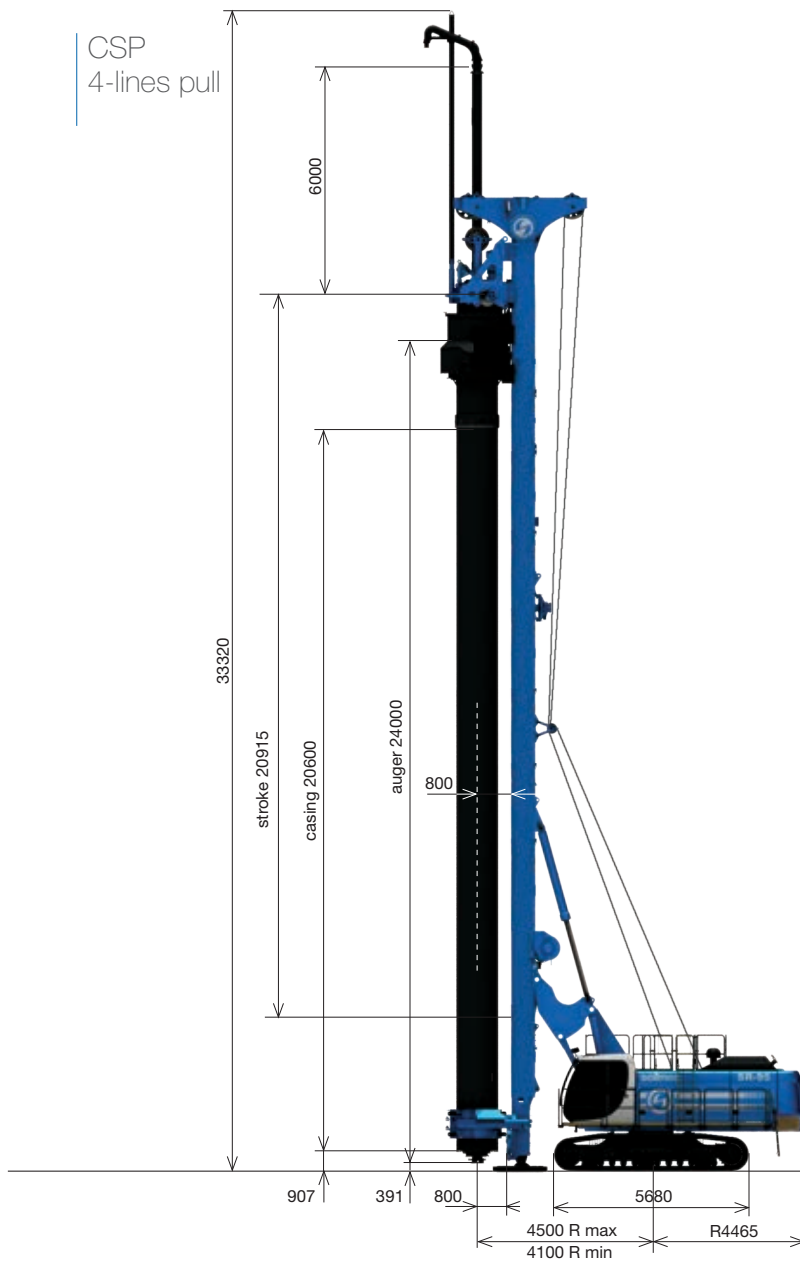
¹ depth reduced by 1,5 m (4.9 ft) with hydraulic auger cleaner

² depth reduced by 0,2 m (0.66 ft) with 100 kN - by 1,4m (4.5 ft) with 484 kN

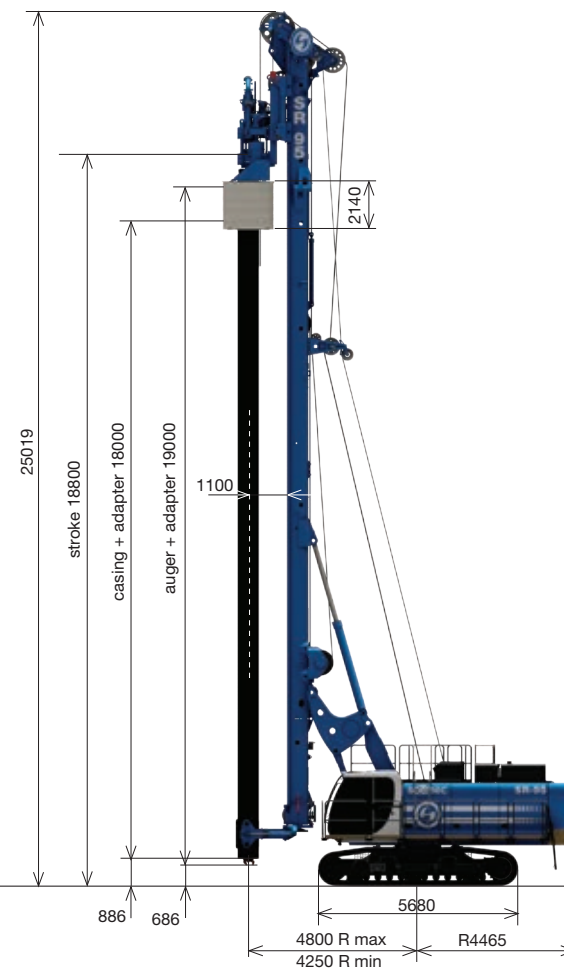
³ special package with mast extension on request

⁴ DP/TCT and TJ are also available with 4-lines pull version

CSP / VDW applications



VDW
Quick change



CSP - Cased secant piles - 4-lines pull		
Operating weight (c/w 6 m - 19.7 ft auger extension, w/o auger and casing)	109600 kg	241624 lb
Max pile diameter	800 / 1000 ¹ mm	31.5 / 39.1 ¹ in
Max augered depth (c/w 6 m - 19.7 ft auger extension)	26,5 m	87 ft
Max cased depth	19,9 m	65 ft
Auger max torque (intermittent)	250 kNm	184387 lbf*ft
Max auger speed rotation	25,4 rpm	25.4 rpm
Auger pull up/down	1110 / 332 kN	249534 / 74635 lbf
Casing max torque (intermittent)	252 kNm	185863 lbf*ft
Max casing speed rotation	5 rpm	5 rpm
Casing pull up/down	816 / 484 kN	183441 / 108806 lbf

VDW 2010 - Cased secant piles - Quick change	standard version		extended version ²	
Operating weight (w/o auger and casing)	95000 kg	209437 lb	97200 kg	214287 lb
Max pile diameter	800 mm	31.50 in	600 / 800 ¹ mm	23.6 / 31.52 ¹ ft
Max augered depth w/o auger cleaner	18 m	59 ft	21 m	69 ft
Max cased depth w/o auger cleaner	17,8 m	58 ft	20,8 m	68 ft
Casing max torque	200 kNm	147510 lbf*ft	200 kNm	147510 lbf*ft
Max casing speed rotation	20 rpm	20 rpm	20 rpm	20 rpm
Auger max torque	100 kNm	73755 lbf*ft	100 kNm	73755 lbf*ft
Max auger speed rotation	40 rpm	40 rpm	40,0 rpm	40 rpm
VDW pull up/down	850 / 484 kN	191084 / 108806 lbf	850 / 484 kN	191084 / 108806 lbf

¹ special undercarriage is required and 17,3 t (30140 lb) counterweight is required

² special package with mast extension on request

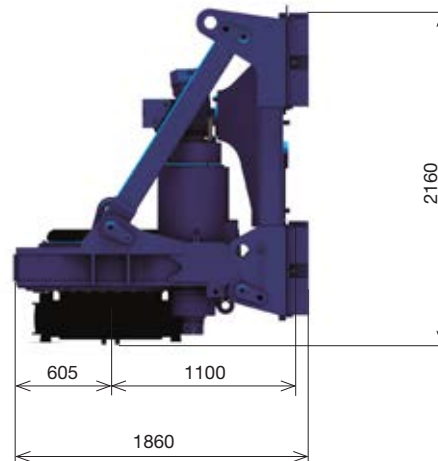
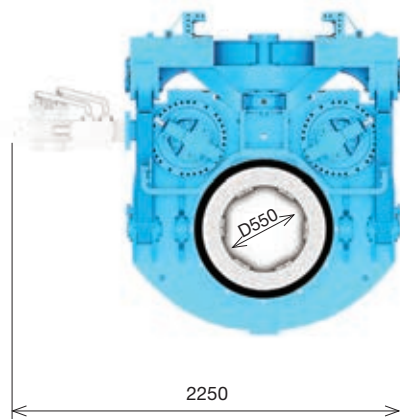
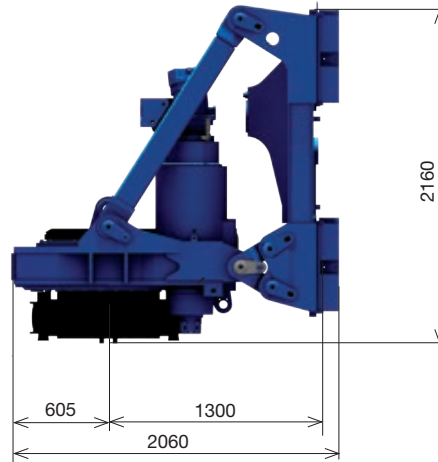
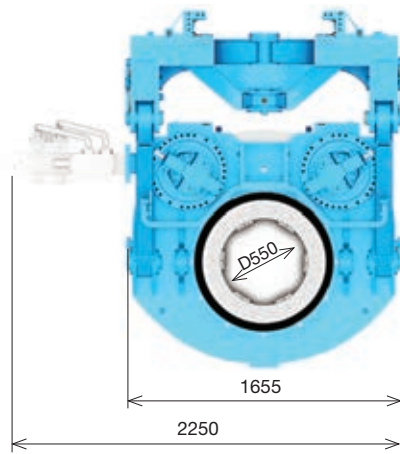
The SR-95 HIT has a very wide offer for the cased augered piles technology.

The rig can be fitted with the "classic" CAP/CSP system developed by Soilmecc or with the new VDW system.

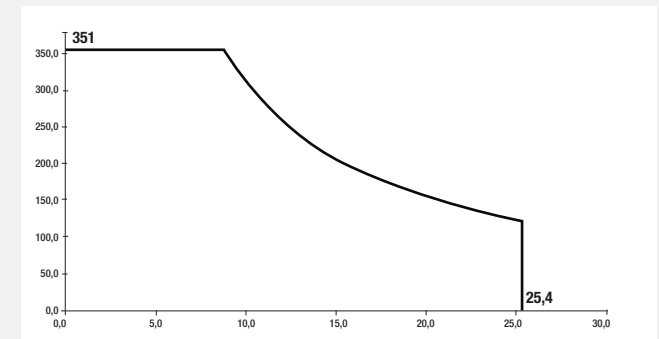
The CAP/CASP system, with the machine in 4-lines pull version, enables you to get the higher performance thanks to the independent rotaries and a very high extraction force.

The VDW system ensure an easy conversion from quick change and allows a front of wall minimum distance.

Rotary



Rotary torque diagram



The new rotary design allows a longer stroke, a higher extraction force and maximum use of available power. Every detail has been accurately designed to increase jobsite production.

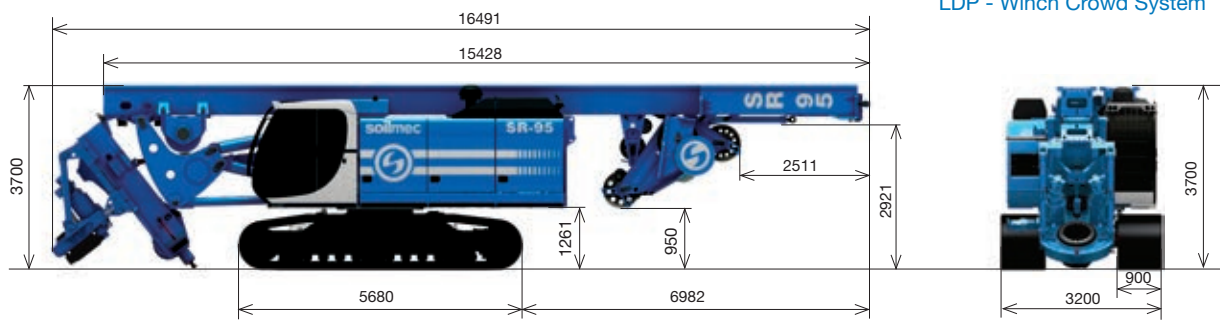
The rotary sleeve is composed of symmetrical and interchangeable ribs in order to reduce maintenance time. The inner passage is 550 mm (21.6 in) without ribs.

The variable drilling axis device (from 1100 mm to 1300 mm / 45 in to 70 in) ensures the maximum geometric clearance in front of the mast (CCS up to diameter 2500mm / 98 in - WCS up to diameter 2300 mm / 90

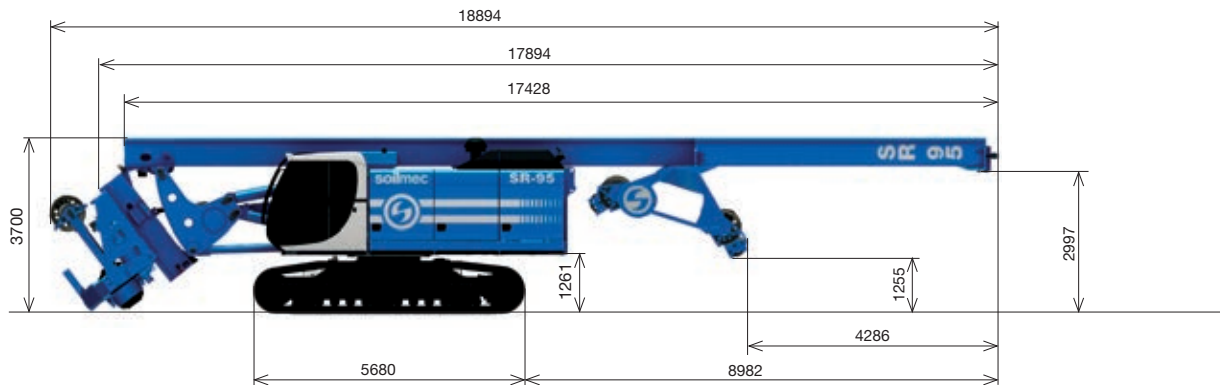
Type		
Max torque	351 kNm	258880 lbf·ft
1 st gear rated torque	301 kNm	222006 lbf·ft
Max drilling speed	25,4 rpm	25.4 rpm
Max spin off speed	120 rpm	120 rpm
Weight (w/o cradle and casing flange)	4840 kg	10670 lb

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Transport, dimensions & weights



LDP - Winch Crowd System

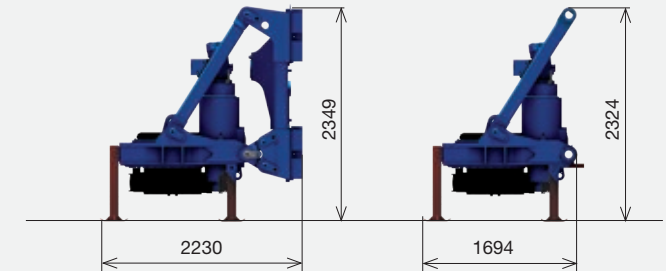


CFA - 4-lines pull

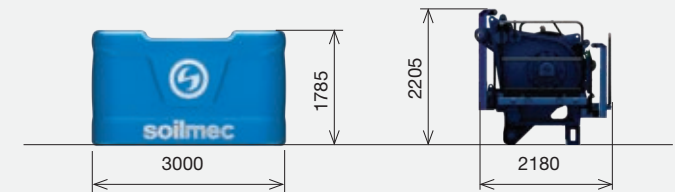
Transport configuration		
Width c/w - w/o crawlers ¹	3200 - 3000 mm	126 - 118 in
Height c/w - w/o crawlers ²	3700 - 3350 mm	148 - 134 in
Length CCS version w/o rotary	15900 mm	626 in
Length WCS version w/o rotary	16350 mm	644 in
Length ECT4 version w/o rotary	17900 mm	705 in
Weight CCS version c/w rotary, w/o counterweight - w/o rotary, counterweight, crawlers	72100 - 45700 kg	158953 - 100751 lb
Weight WCS version c/w rotary, w/o counterweight - w/o rotary, counterweight, crawlers	75600 - 54400 kg	166669 - 119931 lb
Weight ECT4 version c/w rotary, w/o counterweight - w/o rotary, counterweight, crawlers	68800 - 52800 kg	151678 - 116404 lb

¹ 3400 - 3000 (134 - 118 in) c/w special undercarriage

² 3780 - 3400 (149 - 134 in) c/w special undercarriage



Transport configuration	Rotary	
Weight w/o cradle	4780 kg	10538 lb
Width w/o cradle	2232 mm	88 in
Weight c/w cradle	6500 kg	14330 lb
Width c/w cradle	2260 mm	89 in



Transport configuration	Counterweight	
Transport weight	15100 kg	33289 lb
Thickness	765 mm	30 in

Transport configuration	Main winch - single layer	
Weight c/w foldable platform	6550 kg	14440 lb
Width c/w foldable platform	4368 mm	172 in



Transport configuration	Crawler	
Transport weight for each element	16000 kg	35274 lb
Thickness	900 mm	35 in

Technical data

Undercarriage



Undercarriage		
Type	variable gauge, telescoping removable sides	variable gauge, telescoping removable sides
Overall width with retracted/extended crawlers	3200 / 4700 mm	126 / 185 in
Width of triple grouser track shoes	900 mm	35.4 in
Overall length of crawlers	5680 mm	224 in
Traction force	668 kN	150172.4 lbf
Travelling speed	1,9 km/h	1.2 mph
Special undercarriage - CSP version		
Type	variable gauge, telescoping removable sides	variable gauge, telescoping removable sides
Overall width with retracted/extended crawlers	3400 / 5000 mm	134 / 197 in
Width of triple grouser track shoes	900 mm	35.4 in
Overall length of crawlers	5968 mm	235 in
Traction force	771 kN	173328 lbf
Travelling speed	1,65 km/h	1.03 mph

Engine



Engine		
Engine model ¹	Cummins X15	Cummins X15
Power rating	450 kW @ 1800 rpm	603 HP @ 1800 rpm
Engine conforms to Exhaust emission Standard	EU stage V, US EPA Tier 4f	EU stage V, US EPA Tier 4f
Fuel tank capacity	830 l	220 US gal
AD Blue tank capacity	56,8 l	15 US gal

¹ CAT C15 - Tier3 is available on request

Hydraulic system



Hydraulic system		
Main pumps flow	2x 444 l/min	2x 117.3 US gal/min
Auxiliary pumps flow	140 + 105 + 26 l/min	37 + 28 + 7 US gal/min
Hydraulic oil tank capacity	1050 l	277 US gal

Crowd system

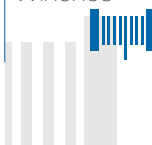


CCS_Cylinder Crowd System		
Stroke	6500 mm	256 in
Crowd force pull (down/up)	280 / 365 kN	62945 / 82054 lbf
Speed up (slow/fast)	3,7 / 10,8 m/min	12 / 35.4 ft/min
Speed down (slow/fast)	3,5 / 11 m/min	11.5 / 36 ft/min

Crowd system



Winches



WCS_Winch Crowd System		
Stroke ²	18800 mm	740 in
Crowd force pull (down/up)	484 / 484 kN	108800 / 108800 lbf
Speed up (slow/fast)	6 / 26 m/min	19.7 / 85.3 ft/min
Speed down (slow/fast)	6 / 26 m/min	19.7 / 85.3 ft/min

² stroke 21800 mm (858 in) with 3 m (10 ft) mast extension is available on request

Main winch - standard		
Type	controlled descent	controlled descent
Rope layers	3	3
Line pull (1 st layer)	320 kN	71939 lbf
Rope diameter	32 mm	1.26 in
Rope speed (1 st layer)	81 m/min	265 ft/min

Main winch - single layer (on request)		
Type	controlled descent	controlled descent
Line pull	350 kN	78683 lbf
Rope diameter	32 mm	1.26 in
Rope speed	80 m/min	262 ft/min

Auxiliary winch		
Type	controlled descent	controlled descent
Rope layers	2	2
Line pull (1 st layer)	132 kN	28550 lbf
Rope diameter	22 mm	0.87 in
Rope speed (1 st layer)	70 m/min	230 ft/min

Noise



Noise		
Sound pressure level in cab c/w Tier 4f EU Stage V, US EPA Engine	109 dB	109 dB
Sound power level c/w Tier 4f Engine c/w Tier 4f EU Stage V, US EPA Engine	72 dB	72 dB
Vibration transmitted to the hand-arm system of the machine operator	< 2,5 m/s ²	< 8.2 ft/s ²
Vibration transmitted to the whole body of the machine operator	< 0,5 m/s ²	< 1.67 ft/s ²

Configurations

UNDERCARRIAGE

Variable gauge, telescopic removable sides	●
Stabilizers cylinders	●
Hydraulic prearrangement for casing oscillator	○
Mechanical prearrangement for casing oscillator	●
VRM200KL casing oscillator	○
Radio remote control for tramming operation	●

UPPER STRUCTURE

Diesel engine CAT C15 ACERT EU Stage IIIA – US EPA Tier 3	○
Diesel engine Cummins X15 EU Stage V – US EPA Tier 4F	●
Start and slow system	●
Harness technology for electrical system	●
Automatic greasing package	○
Compressor kit	○
Removable catwalk 900 mm (35.4 in) wide c/w handrails	●
Foldable catwalk 900 mm (35.4 in) wide c/w handrails	○
Acoustic & light alarm for tramming	●
Lighting led system package	●
Sound proofed canopies	●
Silent pack	○
Hydraulic prearrangement for additional technologies	●

H-CAB

Front protective grille	●
Falling object protective structure (FOPS)	●
Lower front protective grille	○
Rearview mirrors	●
Comfort packagge	●
Operator seat (air suspension, lumbar support, fully adjustable positioning, safety belt & operator presence micro-switch)	●
Sliding door	●
Sliding window	○
Lighting system in front of the cab	●

CONTROL AND MONITORING SYSTEM

DMS ON BOARD with technological package	●
DMS PC	●
DMS manager 4.0	○
GSM / GPRS / WIFI Modem	●
DMS ON BOARD adjustable monitor 12" touch screen	●
Video control by 5 cameras with display in the cab	●
Inclinometer device with automatic verticality	●

WINCHES

Main winch SW320 model	●
Main winch SW350 model - single layer	○
Load cell for main winch	○
Limit switch for rope winding and winches	●
Depthmeter for main winch	●
Anti-slack system for main winch	○
Service winch SW130 model	●
Load cell for service winch	●
Swivel for auxiliary winch	○
Service rope holder	●

ROTARY UNIT

Rotaty unit c/w spin-off; Max torque intermitted: 351 kNm (258880 lbs*ft)	●
Replaceable drive ribs	●
Automatic greasing kit for cradle	●
Oil discharge conveying system	●

MAST

Upper foldable mast element	●
Lower foldable mast element	●
Automatic greasing package for cathead	○

KELLY BAR TECHNOLOGY

Rotary sleeve with 3 ribs	●
Cardan joint	●
Flange for casing driving d. 1500 mm (59 in)	●
Automatic return to the centre hole	○
Automatic greasing kit for winch crowd	○
Telescopic mast foot (only for WCS)	●
Drilling axis 1100 mm (from 61 in)	●
Variable Drilling axis 1300 mm (51 in)	○
Package for long mast - upgraded version	○

CFA TECHNOLOGY

Sleeve 6 m (19.7 in) long 25HD-5	○
Sleeve 8,5 m (27.8 in) long 25HD-5	○
CFA package for 20 m (65.6 in) ECT2	●
CFA package for 23 m (75.5 in) ECT2	○
CFA package for 24 m (79 in) ECT4	●
CFA package for 26 m (85 in) ECT4	○
DMS ON BOARD with automatic auger lifting	●
Concrete pipe on turret and mast	○

Autodrilling package	○
Autorotary package	○
Automatic greasing kit for sheeves block	○
Additional pull-down winch	○
Hydraulic universal openable lower guide Ø 1200mm (47.2 in)	●
Auger cleaner star type	○
Double roller auger cleaner Ø 1200 mm (47.2 in)	●
Wi-Fi pressure transducer kit for concrete line	○
Two pressure transducers kit	○
Hydraulic prearrangement for VTH-1 vibrator	○

OTHER TECHNOLOGIES

CSP technology 19,9 m (65 ft) cased depth for 4-lines pull version	○
Special undercarriage for CSP version	○
VDW technology for Quick Change std and extended version	○
DP/TCT technology for Quick Change and 4-lines pull version	○
TJ technology for Quick Change and 4-lines pull version	○

● standard

○ optional

* The technology package is only referred to the machine set up in this specific version



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