

CH 4

SELF-ERECTING
HYDRAULIC PILING RIG



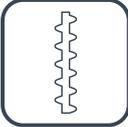
THE MULTIPURPOSE PILING RIG

CH

The **CH 4** is the **most highly mobile solution for short-term piling jobsites**.

The agile and compact **CH 4** allows for **easy maneuverability** even in restricted areas. It combines technological versatility and performance with an **unbeatable ease of use**. Simple to transport, the **CH 4** requires **zero setup time**, ensuring immediate operational readiness.

Range of drilling technologies. The **CH 4** allows for the use of the following drilling technologies:

	BP (Bored Piles)	BP - Uncased bored piles, excavated by dry method or stabilized by drilling fluid						
		CBP - Kelly Piles with casing installation by rotary drive						
			m.s.	i.s.	BP	CBP		
		Max. pile diameter	mm	ft-in	750 / 1.000 ¹	2' 6" / 3' 3" ¹	750	2' 6"
		Max. pile depth	mm	ft-in	27.800 ²	91' 2" ²	-	-
NOTES	1 - Tool below mast		2 - Using 9-elements locking kelly bar					
	CFA (Continuous Flight Auger)	CFA - Piles that are drilled uncased by the use of a continuous hollow auger stem						
			m.s.	i.s.	CFA			
		Max. pile diameter	mm	ft-in	750	2' 6"		
		Max. pile depth	mm	ft-in	12.100 ³	39' 8" ³		
		NOTE	3 - With 4.000 mm (13' 1" ft-in) auger extension					



TECHNICAL DATA

UNDERCARRIAGE		m.s.	i.s.		
Type	-	-	-	Variable gauge	
Track shoe width	mm	ft-in	450	1' 5" ¹ / ₈	
Track shoe type	-	-	-	Triple grouser	
Overall width (retracted side frames)	mm	ft-in	2.320	7' 7" ⁵ / ₈	
Overall width (extended side frames)	mm	ft-in	2.920	9' 6" ¹⁵ / ₁₆	
Overall length	mm	ft-in	3.076	14' 1"	
Centre idler to centre sprocket	mm	ft-in	2.480	8' 1" ⁵ / ₈	

UPPERFRAME		m.s.	i.s.		
Width	mm	ft-in	2.235	7' 4"	
Operators' cabin	-	-	-	ROPS - TOPS & FOPS-1 certified, 1030 mm (3' 4") wide	
Control system type	-	-	-	CAN-BUS	
User interface	-	-	-	5" Touch Screen	
Tail swing radius	mm	ft-in	1.300	4' 3" ³ / ₈	

DIESEL ENGINE		m.s.	i.s.	High Tech Line	
Make and model	-	-	-	YANMAR 4TNV98CT	
Emission certification	-	-	-	UE stage IIIA / EPA Tier 3 - EU stage V / US EPA Tier 4f	
Aspiration	-	-	-	Turbocharged	
Power rating (2.100 rpm)	kW	hp	54	73	
Displacement	cc	in ³	3.319	203	
Fuel tank	l	gal	105	28	

HYDRAULIC SYSTEM		m.s.	i.s.		
Main pumps flow	l/min	gal/min	180	48	
Main pump working pressure	MPa	Psi	28	4,061	
Hydraulic oil tank capacity	l	gal	90	24	

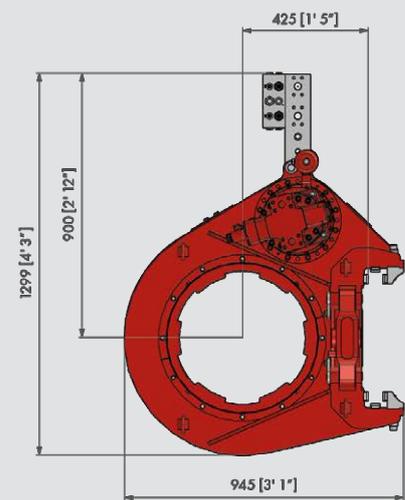
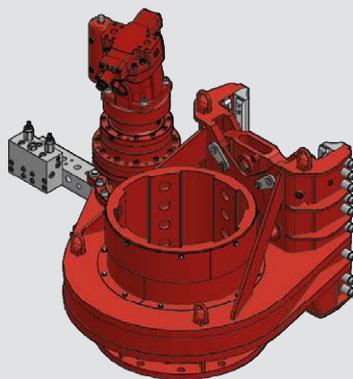
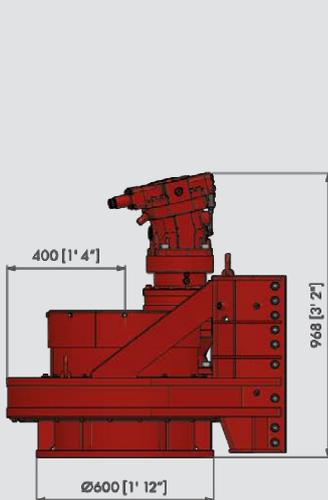
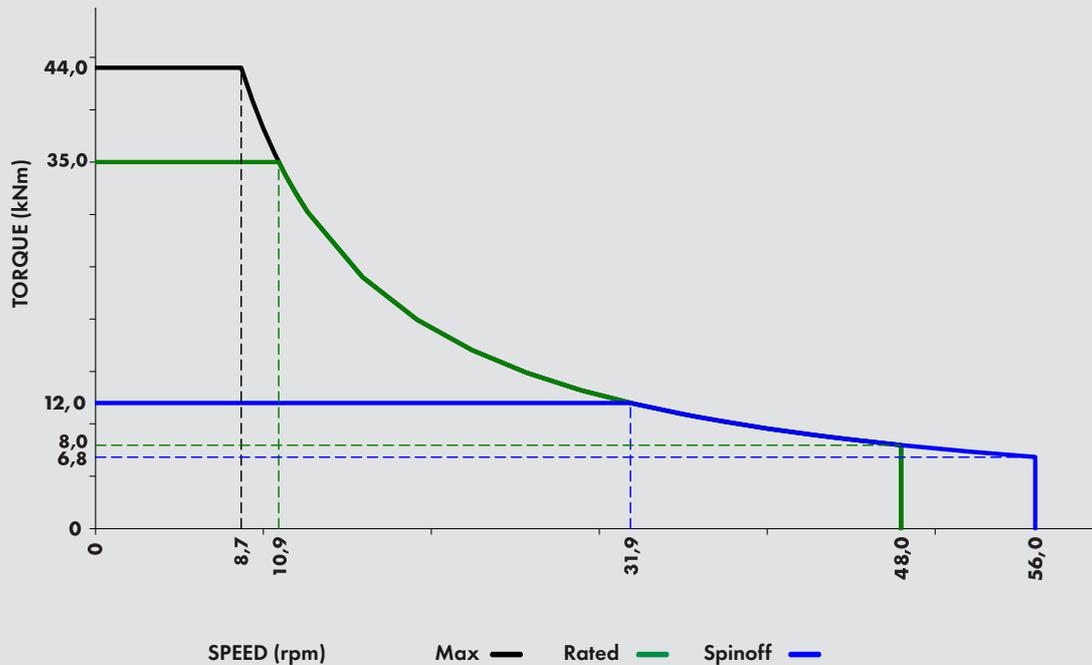
MAIN WINCH		m.s.	i.s.		
Type	-	-	-	Controlled descent	
1 st layer line pull	kN	lbs	65	14,612	
1 st layer rope speed	mm/min	ft/min	64.000	210	
Rope diameter	mm	in	15	⁹ / ₁₆ "	
Rope layers	-	-	-	2	
FEM classification	-	-	-	M5-L2-T5	

SERVICE WINCH		m.s.	i.s.		
Type	-	-	-	Controlled descent	
1 st layer line pull	kN	lbs	27	6,069	
1 st layer rope speed	mm/min	ft/min	43.000	141	
Rope diameter	mm	in	10	³ / ₈ "	
Rope layers	-	-	-	4	

ROTARY HEAD



TORQUE DIAGRAM



ROTARY HEAD	m.s.	i.s.	CR 4	
Nominal max. torque	kNm	lbf-ft	44 at 35 MPa	32,450 at 5,076 psi
Max. torque	kNm	lbf-ft	35 at 28 MPa	25,800 at 4,060 psi
Max. drilling speed	rpm		48	
Hydraulic power	kW	hp	40	54
Spin-off speed	rpm		56	
Weight (as shown)	kg	lbs	740	1,631

INNOVATIVE KELLY BAR SYSTEM

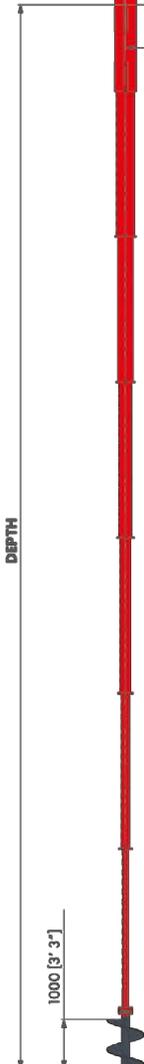
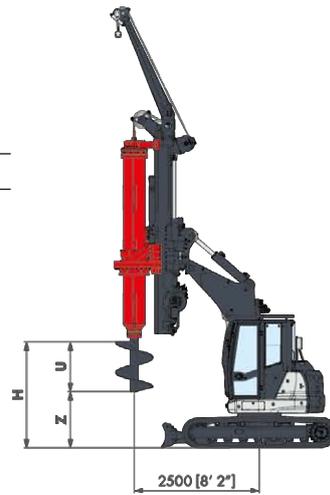
KELLY BAR SIZES	m.s.	i.s.	Outer Diameter	
	mm	in	324	12" 3/4
mm	in	419	16" 1/2	

NOTE Different sizes upon request



U (approx.)	mm	ft-in	1.000	3' 3"
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$$Z = H - U$$



		Outer Diameter 324 mm KELLY BARS			CS (Cylinder System)			
	N.	Length		Weight ton	Depth		H	
		mm	ft-in		mm	ft-in	mm	ft-in
Locking or friction	6	2.700	8' 10"	1,15	13.500	44' 3"	2.900	9' 6"
	6	3.500	11' 6"	1,4	18.300	60'	2.100	6' 11"

		Outer Diameter 419 mm KELLY BARS			CS (Cylinder System)			
	N.	Length		Weight ton	Depth		H	
		mm	ft-in		mm	ft-in	mm	ft-in
Locking or friction	5	2.700	8' 10"	1,26	11.100	36' 5"	2.900	9' 6"
	5	3.500	11' 6"	1,53	15.100	49' 6"	2.100	6' 11"
	7	2.700	8' 10"	1,53	15.900	52' 2"	2.900	9' 6"
	7	3.500	11' 6"	1,88	21.500	70' 6"	2.100	6' 11"
	9	2.700	8' 10"	1,65	20.600	67' 7"	2.900	9' 6"
	9	3.500	11' 6"	2,04	27.800	91' 2"	2.100	6' 11"

NOTES	Measures refer to 2.500 mm (8' 2" ft-in) working radius	Different lengths available upon request
	Max. self-mounting kelly length 2.700 mm (8' 10" ft-in)	

OPTIONS AND ACCESSORIES



STANDARD EQUIPMENT

Hoist and lowering limit switches on main and service winches	Rollover, front and top cabin protective grate (FOPS-1 certified)
Mast inclination measurement on X & Y axes (digital and analog display)	Diagnostic panel for hydraulic, engine, electrical and electronic functions
Depth measuring device on main winch	Radio with Bluetooth
Rpm measuring device on rotary	Phone charger
Crowd pressure setting	CCS Comacchio Controlling System - 5" Touch Screen
Heating & air conditioning system	Spinoff and shaker tool discharge systems
Diesel engine diagnostic panel	Rotary auto speed management & interactive multiple gear system
Transport securing lugs on crawler unit	Tool box
Work lights	Automatic stop of the main winch at the end of the hole
Swivel for service winch rope	



OPTIONAL EQUIPMENT	
Biodegradable oil	Flange for casing driving
Custom painting	Washing kit
CFA cleaner (star type)	ComNect System 
Flange for bucket opening	Data logger
Comacchio Locking System for CFA crowd force (60 kN)	External Kelly bar holding flange for 300 mm drilling

CE CONFORMITY KIT	
Main and aux winch load cells	Rubber strip guards on auger guide
CFA auger cleaner	



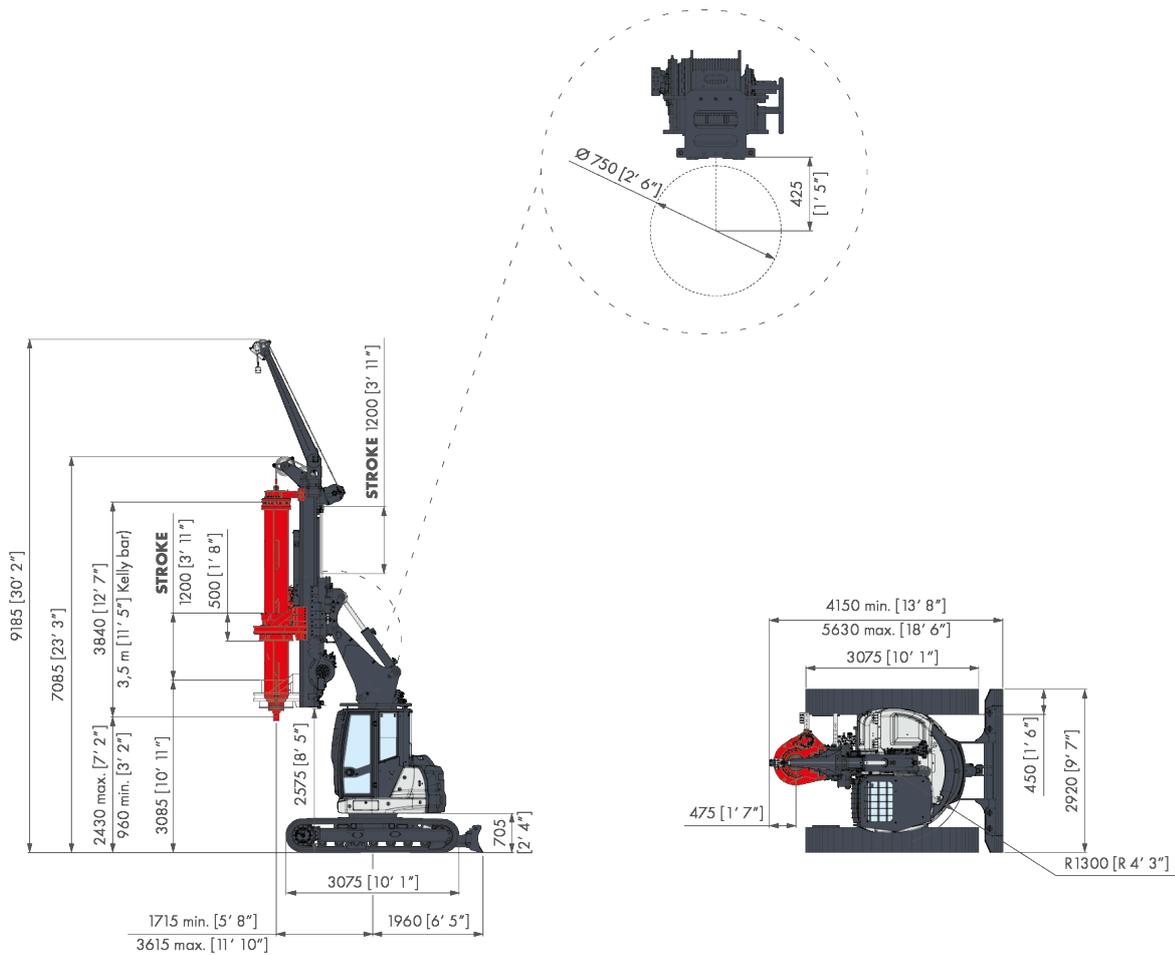
BORED PILES



CH 4 - CS



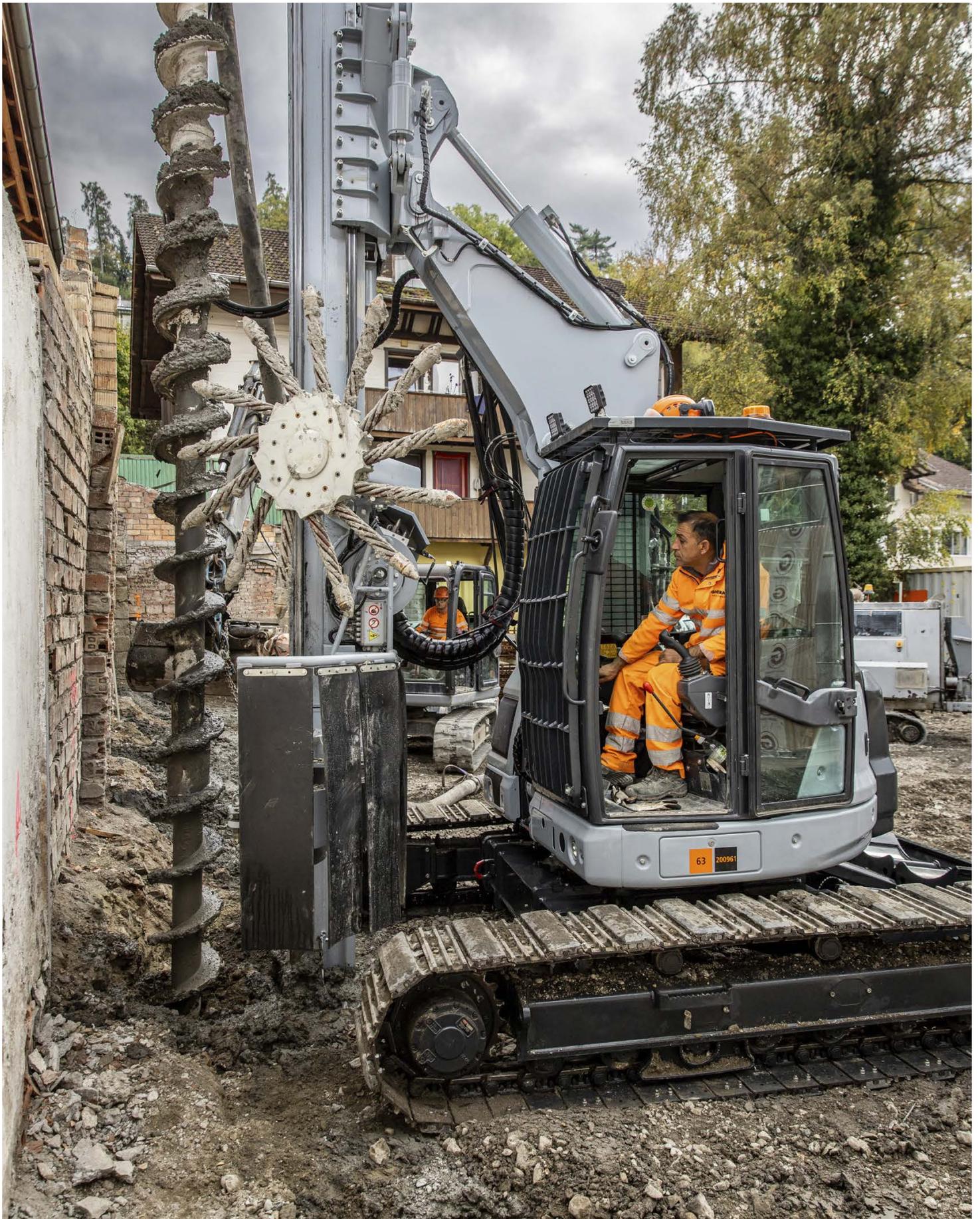
OVERALL DIMENSIONS



CS (Cylinder System)	m.s.	i.s.		
Stroke	mm	ft-in	1.200	3' 11"
Max. pull up force	kN	lbs	60	13,488
Max. pull down force	kN	lbs	60	13,488
Max. pile diameter	mm	ft-in	750 / 1.000 ¹	2' 6" - 3' 3" ¹
Operating weight w/o tool	ton		15 ²	

NOTES	1 - Tool below mast	2 - c/w 7 x 2.700 mm (7 x 8' 10" ft-in) long kelly bar
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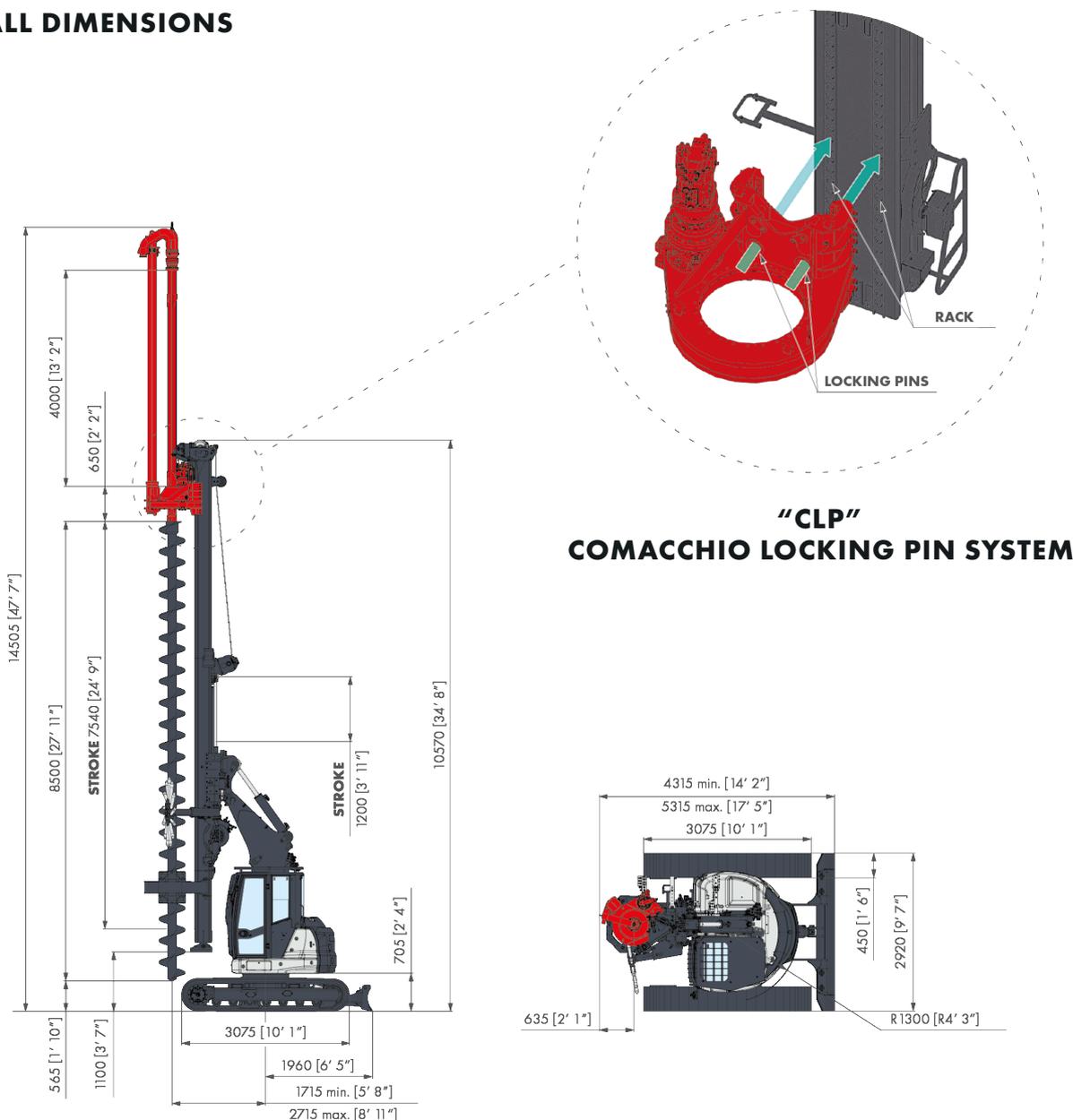
CFA



CH 4 - CFA



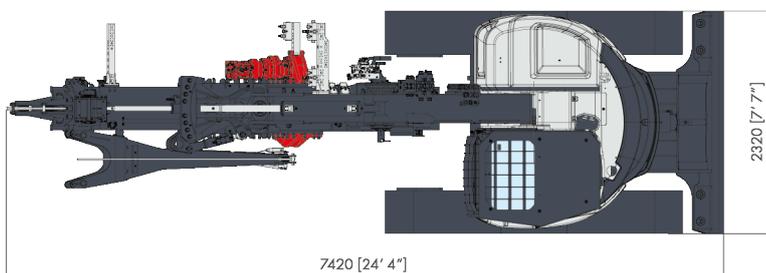
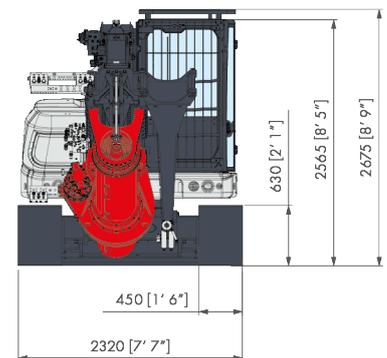
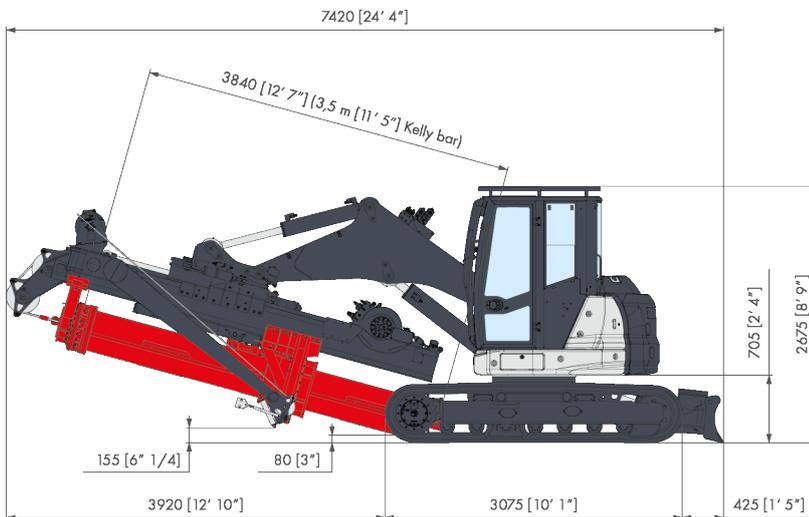
OVERALL DIMENSIONS



CFA (Continuous Flight Auger)	m.s.	i.s.		
Max. pile diameter	mm	ft-in	750	2' 6"
Max. length of augers	mm	ft-in	8.500	27' 11"
Max. length of auger extension	mm	ft-in	4.000	13' 1"
Max. pile depth without/with auger extension	mm	ft-in	8.100/12.100	26' 7" - 39' 8"
Extraction force	kN	lbs	170	37,217
Crowd force on auger (optional with "CLP System")	kN	lbs	60	13,500
Operating weight w/o tool	ton		15,5 ¹	

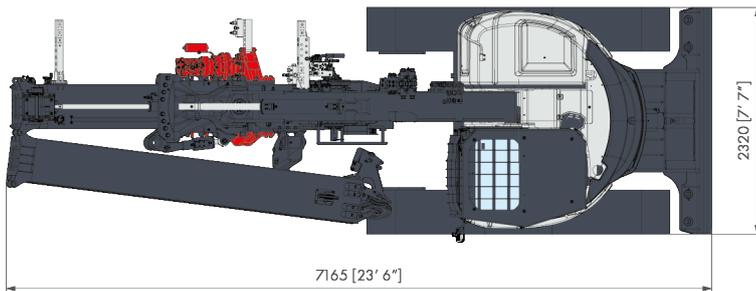
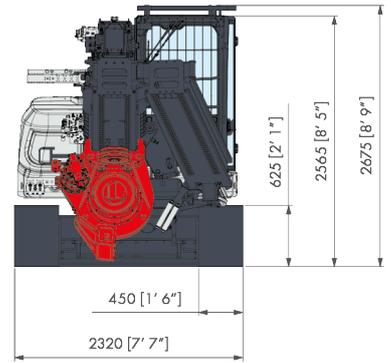
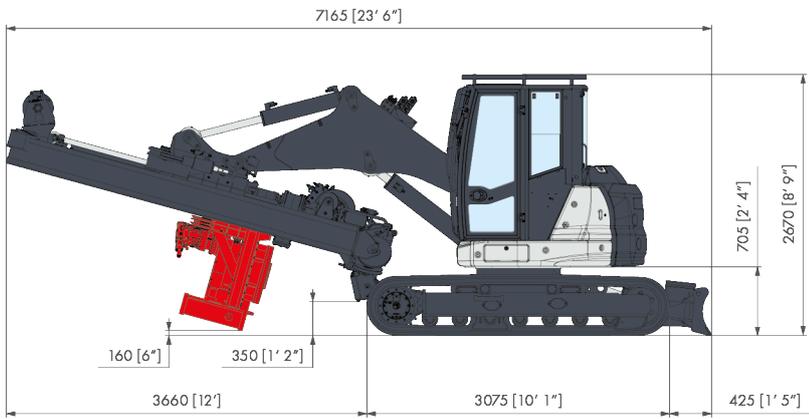
NOTE 1 - With 4.000 mm (13' 1" ft-in) auger extension & star cleaner

TRANSPORT DIMENSIONS



	m.s.	BP - CS
Transport weight	ton	15
NOTE	c/w 7 x 2.500 mm (7 x 6' 6" ft-in) long Kelly bar	

CH 4



	m.s.	CFA
Transport weight	ton	14,3
NOTE	w/o augers, auger extension, auger cleaner, auger guide	



SELF-ERECTING HYDRAULIC PILING RIG FOR CFA



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