

CH 300

Self-Erecting Hydraulic Piling Rig



COMACCHIO

DRILLING HI-TECH

CH 300

MULTIPURPOSE PILING RIG

The winning solution for job sites of short duration that require frequent operations of transport, setting up and dismantling.

Truly self-erecting. The machine is entirely autonomous and self-erecting, and can be transported in one piece/fully assembled with the rotary head and kelly bar installed. Once on site, the machine is easily off loaded from the truck and set up without the need for crane service.

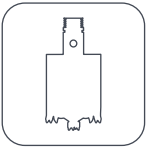
Wide range of drilling technologies. The CH 300 allows for the use of the following drilling technologies:

BP (Bored Piles) uncased bored piles excavated by dry method or stabilized by fluid overpressure;

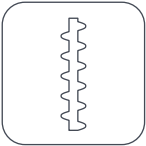
CBP (Cased Bored Piles) bored piles with casing installation by rotary drive;

CFA (Continuous Flight Auger) piles that are drilled uncased by the use of a continuous hollow auger stem.

Performance



	m.s.	i.s.	BP (Bored Piles)		CBP (Cased Bored Piles)	
Max. pile diameter	mm	ft-in	1.300 / 1.500 ⁽¹⁾	4' 3" / 4' 11" ⁽¹⁾	1.000	3' 3"
Max. pile depth	m	ft-in	48,5 ⁽²⁾	159' 1" ⁽²⁾	-	-
(1) tool below mast.						
(2) using self mounting 5-elements kelly bar.						



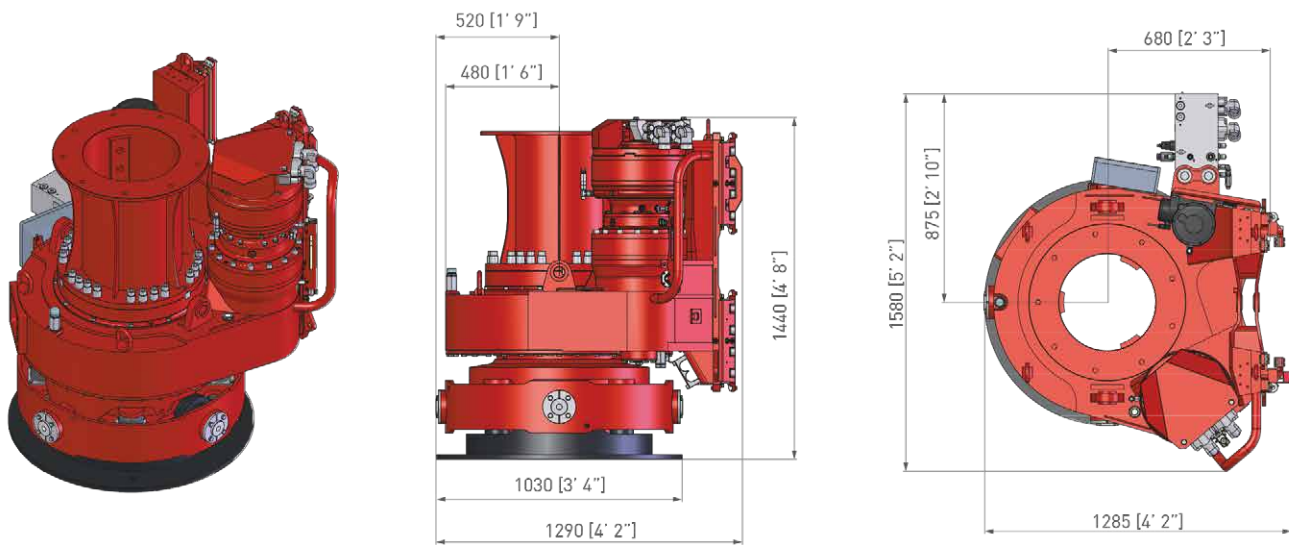
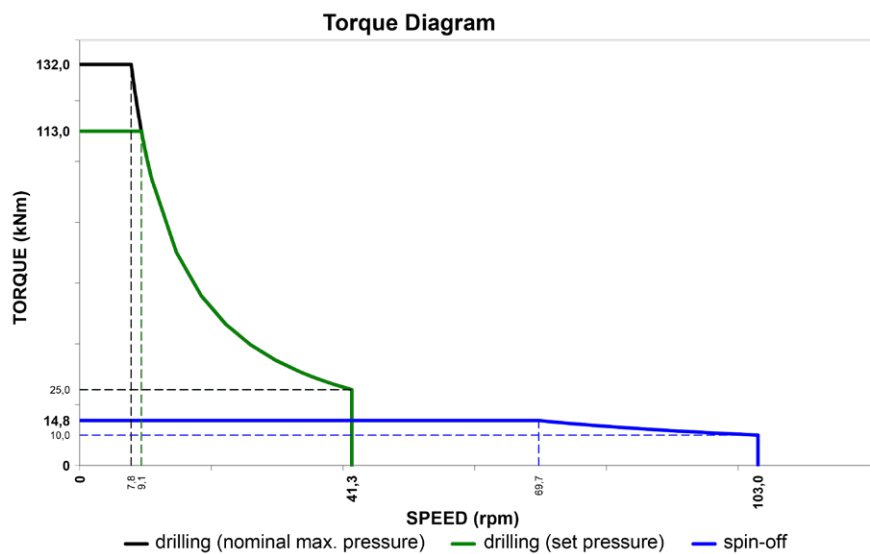
	m.s.	i.s.	CFA (Continuous Flight Auger)	
Max. pile diameter	mm	ft-in	800	2' 7"
Max. pile depth	m	ft-in	13 + 6 = 19	42' 8" + 19' 8" = 62' 4"



Undercarriage	m.s.	i.s.					
Type		-	Variable gauge, telescoping side frames				
Track shoe width	mm	ft-in	600	23" 5/8			
Track shoe type		-	Triple grouser				
Overall width (retracted side frames)	mm	ft-in	2.550	8' 4" 1/2			
Overall width (extended side frames)	mm	ft-in	3.750	12' 3" 1/2			
Overall length	mm	ft-in	4.280	14' 0" 1/2			
Centre idler to centre sprocket	mm	ft-in	3.550	11' 7" 3/4			
Upperframe							
Width	mm	ft-in	2.550	8' 4" 1/2			
Operators' cabin		-	TOPS & FOPS-1 certified, 960 mm [3' 2"] wide				
Control system type		-	CAN-BUS				
User interface		-	7" Touch Screen				
Tail swing radius	mm	ft-in	3.100	10' 2"			
Diesel Engine	High Tech Line						
Make and model		-	Cummins B4.5		Cummins QSB4.5		
Emission certification		-	EU stage V / US EPA Tier 4f		EU stage IIIA / US EPA Tier 3		
Aspiration		-	Turbocharged and charge air cooled				
Power rating (2000 rpm)	kW	HP	142	190		123	165
Displacement	cc	in³	4.500		275		
Fuel consumption rate (100% power, rated speed)	g/kWh	lb/hp-hr	203	0.334		227	0.373
Fuel tank	l	gal	300		80		
Hydraulic System							
Main pumps flow	l/min.	gal/min.	2 x 160		2 x 42.3		
Hydraulic oil tank capacity	l	gal	400		105		
Main Winch							
Type		-	Controlled descent				
1 st layer line pull	kN	lbs	120		26,980		
1 st layer depth	m	ft-in	43		142'		
1 st layer rope speed	m/min.	ft/min.	86		282		
Rope diameter	mm	ft-in	21		13/16"		
Rope layers		-	2				
FEM classification		-	M5-L2-T5				
Service Winch							
Type		-	Controlled descent				
1 st layer line pull	kN	lbs	61		13,700		
1 st layer rope speed	m/min.	ft/min.	58		190' 3"		
Rope diameter	mm	ft-in	15		9/16"		
Rope layers		-	4				
FEM classification		-	M5-L2-T5				

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Rotary Head



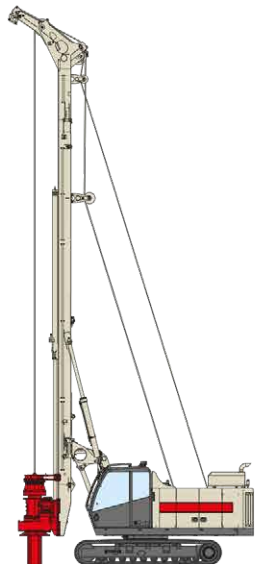
Rotary Head	m.s.	i.s.	CR 13	
Nominal max torque	kNm	lbf-ft	132 at 35 MPa	97,300 at 5,076 psi
Max. torque	kNm	lbf-ft	113 at 30 MPa	83,300 at 4,350 psi
Max. drilling speed	rpm		41	
Hydraulic power	kW	HP	CUMMINS stage V	108 145
	kW	HP	CUMMINS stage IIIA	94 126
Spin-off speed	rpm		103	
Replaceable drive sleeve	-		Yes	
Replaceable drive keys	-		Yes (optional)	

Comacchio Innovative Kelly bar system

Kelly bar sizes	m.s.	i.s.	Outer diameter	
L (standard)	mm	in	355	14"

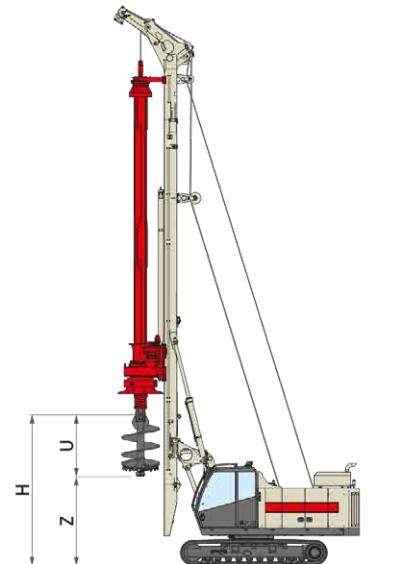
Note

Different sizes upon request.



$$U \text{ (approx.)} \quad \text{mm} \quad \text{ft-in} \quad 1.500 \quad 4' 11''$$

$$Z = H - U$$



Depth	Kelly bar					CPD			
	N.	Length		Weight		Depth		H ⁽¹⁾	
		(m)	(ft-in)	(kg)	(lbs)	(m)	(ft-in)	(m)	(ft-in)
Locking or friction	4	6	19' 8"	2.830	6,240	21,20	69' 6"	4,80	15' 9"
	4	7	23'	3.190	7,030	25,20	82' 8"	4,80	15' 9"
	4	8	26' 3"	3.540	7,800	29,20	95' 9"	4,80	15' 9"
	4	9	29' 6"	3.900	8,600	33,20	108' 11"	4,45	14' 7"
	4	10,5	34' 5"	4.440	9,790	39,20	128' 7"	2,95	9' 8"
Friction	5	6	19' 8"	3.230	7,120	26,20	85' 11"	4,80	15' 9"
	5	7	23'	3.660	8,070	31,20	102' 4"	4,80	15' 9"
	5	8	26' 3"	4.080	8,990	36,20	118' 9"	4,80	15' 9"
	5	9	29' 6"	4.500	9,920	41,20	135' 2"	4,45	14' 7"
	5	10,5	34' 5"	5.130	11,310	48,70	159' 9"	2,95	9' 8"

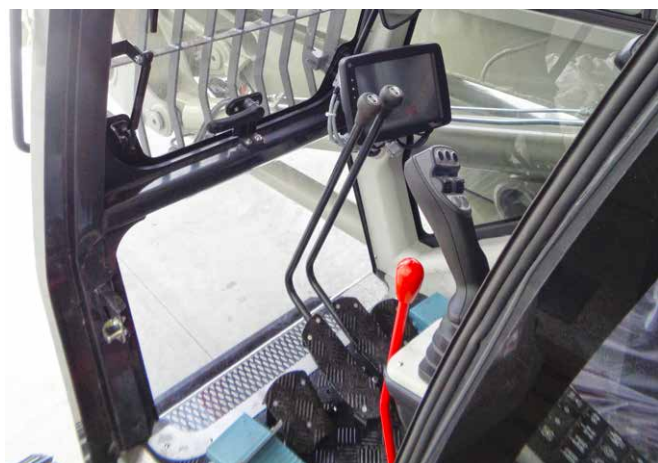
(1) Max height of bottom kelly pin above ground, with 130 x 130 mm (5" 1/8 x 5" 1/8) square joint.
Using 200 x 200 mm (7" 7/8 x 7" 7/8) square joint the height decreases by approx. 0,20 m (7" 7/8).

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Options and Accessories

Standard equipment

Main winch with special grooving	Transport securing lugs on crawler unit
Hoist and lowering limit switches on main and service ropes	Work lights
Swivel for main rope	Electric refuelling pump and hydraulic oil refilling
Service rope parking point	Diagnostic panel for hydraulic, electrical and electronic functions
Mast inclination measurement on X & Y axes (digital and analog display)	Front and top cabin protective grate (FOPS-1 certified)
Automatic vertical mast alignment	Bluetooth radio device
Depth measuring device on main winch	Phone charger
Rpm measuring device on rotary	CCS Comacchio Controlling System - 7" Touch Screen
Crowd pressure setting	Spinoff tool dump system
Air conditioning system	Adaptive shaker tool dump system
Engine diagnostic panel	Rotary auto speed management & interactive multiple gear
Fire extinguisher in the cabin	Tool box



CCS: Home page

Optional equipment

Biodegradable oil	Welding equipment & generator
Main and aux winch load cells	Washing kit
Swivel for auxiliary rope	Vibratory equipment for steel cage
Central lubrication system	Hydraulic PTO
Automatic lubrication kit for rotary sliding guides	Tools shelf on cabin
CFA cleaner (star or hydraulic type)	Air compressor kit
Flange for bucket opening	Customized casing twisters
Cardan joint	Sheave head w/ LH side jib for aux line (kelly version)
Kelly bar quill with replaceable drive keys	Auger extension transportation kit (CFA version)
Flange for casing driving	ComNect system

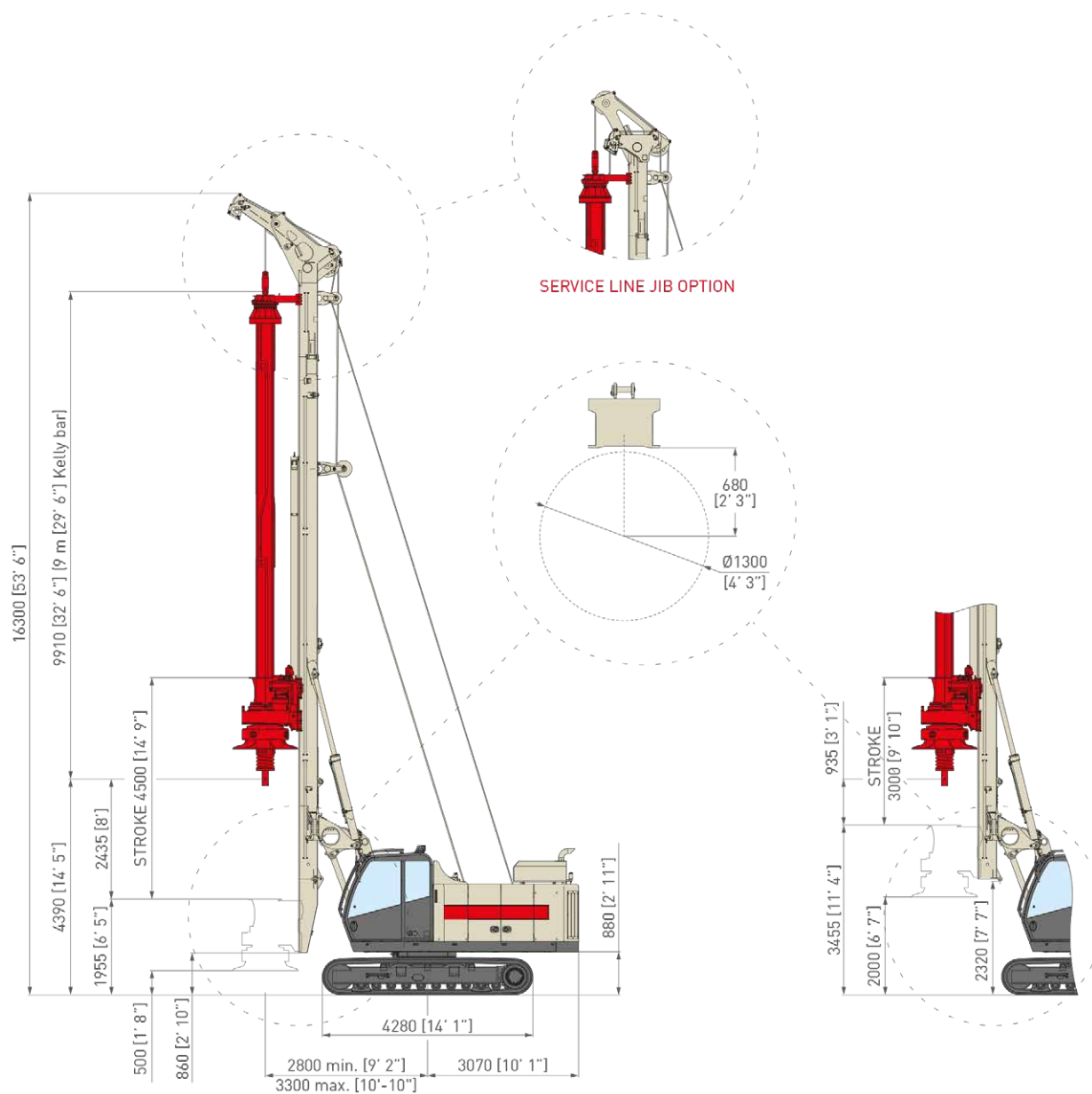
CE conformity kit

Machine travel remote radio control	Video cameras set
Main and aux winch load cells	CFA cleaner
Side walkways w/handrails	Rubber skirt on auger guide



CH 300 - CPD

Overall dimensions



CPD (Cylinder Pull Down)

	m.s.	i.s.		
Stroke	mm	ft-in	4.500	14' 9"
Max. pull up force	kN	lbs	148	33,270
Max. pull down force	kN	lbs	95	21,350
Crowd speed (hoist-lowering)	m/min.	ft/min.	22 - 25	72' 2" - 82'
Max. pile diameter	mm	ft-in	1.300 ⁽¹⁾ - 1.500 ⁽²⁾	4' 3" ⁽¹⁾ - 4' 11" ⁽²⁾
Operating weight w/o tool	kg	lbs	29.850 ⁽³⁾	65,800 ⁽³⁾

Notes

(1) tool in front of mast.

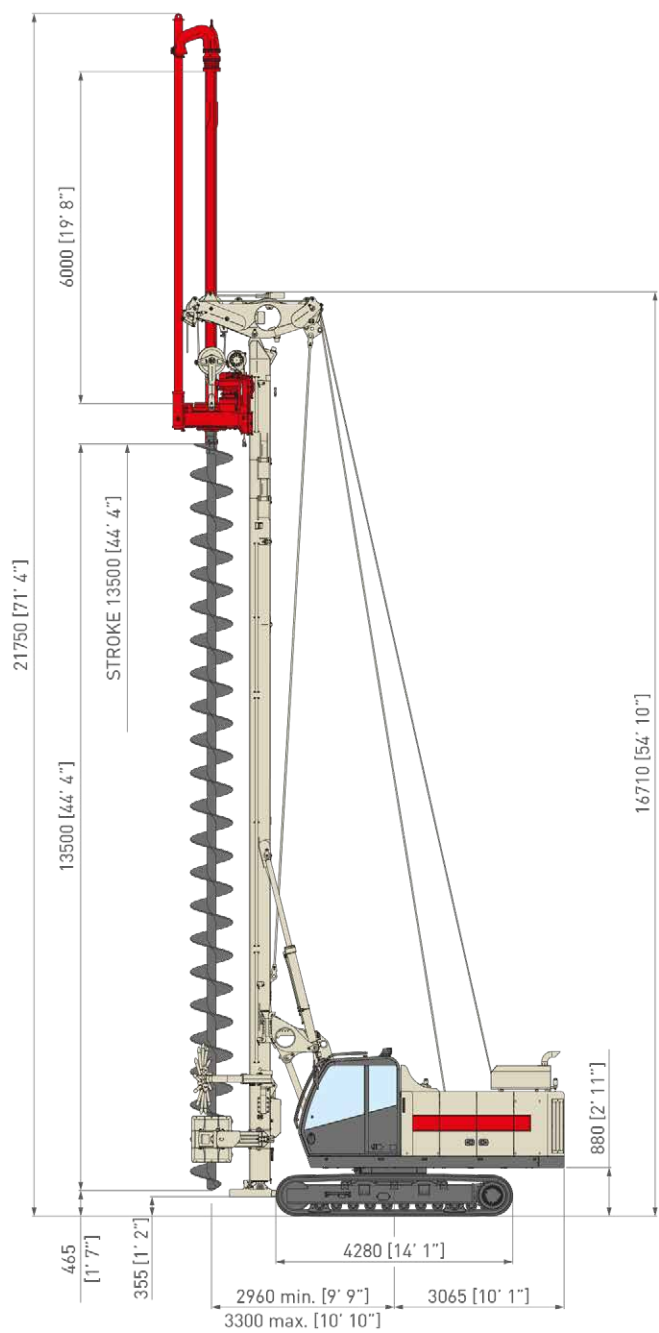
(2) tool below mast.

(3) c/w 4 x 9 m [4 x 29' 6"] long 355 mm [14"] dia. Kelly bar; rotary c/w bucket opening flange.



CH 300 - CFA

Overall dimensions



CFA	m.s.	i.s.	T4	
Max. pile diameter	mm	ft-in	800	2' 7"
Max. length of augers	m	ft-in	13,5	44' 3"
Max. length of auger extension	m	ft-in	6	19' 8"
Max. pile depth	m	ft-in	13 + 6 = 19	42' 8" + 19' 8" = 62' 4"
Extraction force	kN	lbs	320	71,900
Crowd force on auger (optional)	kN	lbs	45	10,100
Operating weight w/o tool	kg	lbs	29.550 ⁽¹⁾	65,150 ⁽¹⁾
Max. drill string weight	kg	lbs	4.300	9,500

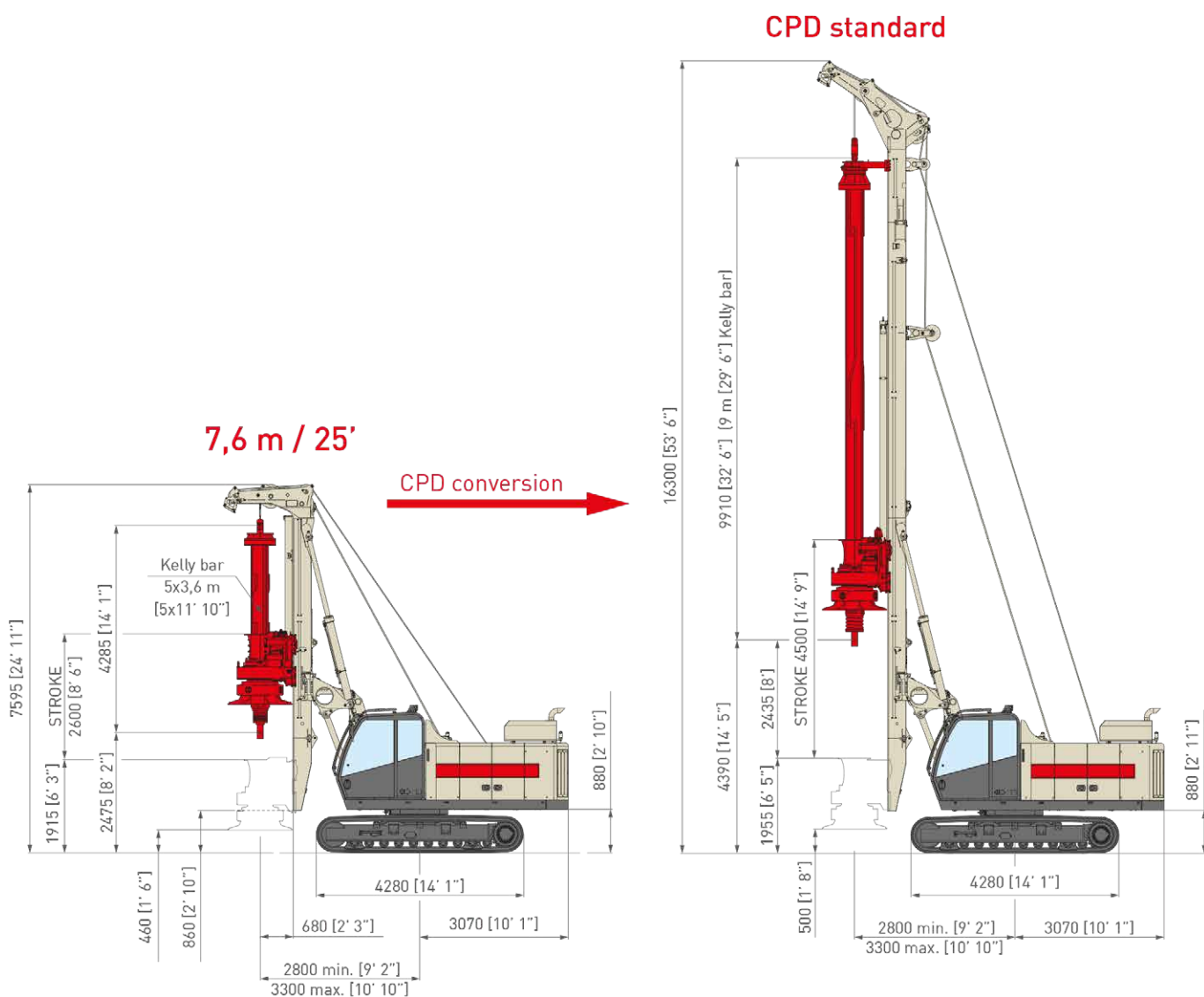
Note

[1] with 6 m (19' 8") auger extension, additional counterweight & star cleaner; without pull down winch on rotary.



CH 300 - LHR

Overall dimensions



LHR (Low Head Room)	m.s.	i.s.	7.6 m / 25'		CPD standard	
Min. height	mm	ft-in	7.595	24' 11"	16.300	53' 6"
Max. kelly bar length	m	ft-in	3,9	12' 10"	10,5	34' 5"
Stroke of pull down cylinder (with / without mast foot)	mm	ft-in	2,6 - 1,1	8' 6" - 3' 7"	4,5 - 3,0	14' 9" - 9' 10"
Max. pile diameter (in front of mast / below mast)	mm	ft-in	1.300 - 1.500	4' 3" - 4' 11"	1300 - 1500	4' 3" - 4' 11"
Max. pile depth with 4-element kelly bar	m	ft-in	12,50	41'	39,00	127' 11"
Max. pile depth with 5-element kelly bar	m	ft-in	15,30	50' 2"	48,50	159' 1"
Operating weight w/o tool	kg	lbs	26.850 ⁽¹⁾	59,200 ⁽¹⁾	29.850 ⁽²⁾	65,800 ⁽²⁾

Notes

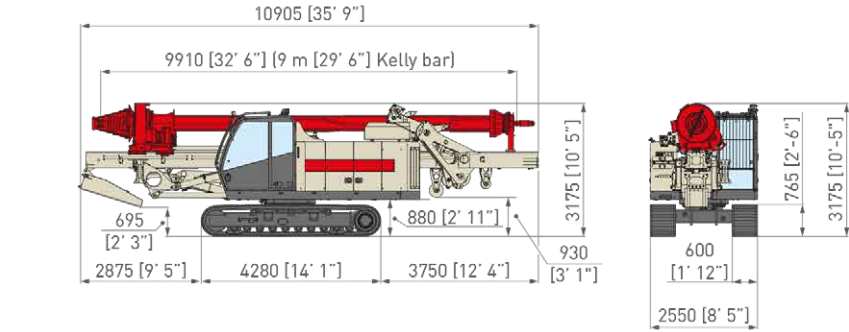
(1) c/w 5 x 3,6 m [5 x 11' 10"] 343 mm [13" ½] dia. kelly bar; rotary c/w bucket opening flange.

(2) c/w 4 x 9 m [4 x 29' 6"] 355 mm [14"] dia. kelly bar; rotary c/w bucket opening flange.

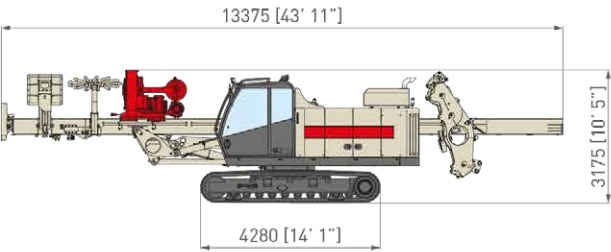


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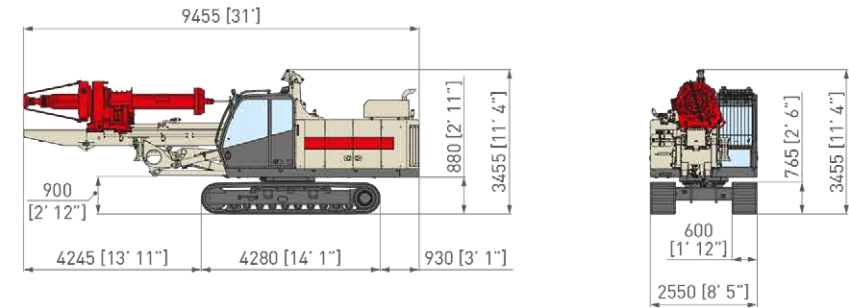
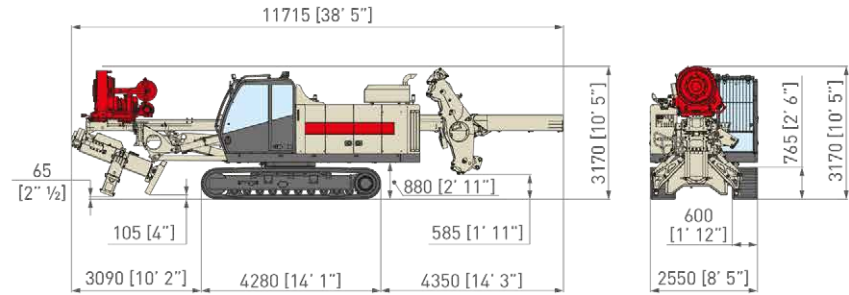
Transport dimensions



	m.s.	i.s.	CPD	
Transport weight ⁽¹⁾	kg	lbs	29.850	65,800



	m.s.	i.s.	CFA T4	
Transport weight ⁽²⁾	kg	lbs	27.850	61,400



	m.s.	i.s.	LHR 7,6 m	
Transport weight ⁽³⁾	kg	lbs	26.850	59,200

Notes

- [1] c/w 4x9 m (4 x 29' 6") long Kelly bar; rotary c/w bucket opening flange.
- [2] augers, extensions, star cleaner and winch on rotary removed; c/w auger guide.
- [3] c/w 5 x 3,6 m (5 x 11' 10") 343 mm (13" 1/2) dia. kelly bar; rotary c/w bucket opening flange.



Comacchio S.p.A.

Via Callalta, 24/B - 31039 Riese Pio X (TV) (Italy)

Tel +39 0423 7585 - Fax + 39 0423 755592 - sales@comacchio.com