



CB30

HYDRAULIC PILING RIG
FOR DEEP FOUNDATION DRILLING



CB30

HYDRAULIC PILING RIG

The Casagrande CB30 is a new-generation hydraulic piling rig designed to handle high-demand foundation works with broad application versatility. It can be configured for rotary piling (LDP), CFA, cased piles, displacement techniques and special foundation arrangements, providing a multifunctional platform suited to large infrastructure and complex structural projects.

Developed within the latest CB technological generation, it integrates a high-performance hydraulic system and intelligent power management to ensure energy efficiency, smooth machine movements and continuous control of drilling parameters. The robust structure and heavy-duty undercarriage deliver operational stability and productivity even in challenging ground conditions.

The CB30 is an advanced solution for contractors seeking power, reliability and execution precision in every phase of the piling process.



2400 mm
Max. drilling diameter



78 m
Max. drilling depth



302 kNm
Max. torque



313 kW
Diesel engine power



84 t
Operating weight

Maximum values vary according to the set-up.



- 1 – Rotary head
- 2 – Main and auxiliary winch
- 3 – Crowd winch
- 4 – Diesel engine
- 5 – Operator's cabin
- 6 – Parallelogram
- 7 – Mast
- 8 – Jib
- 9 – Kelly bars
- 10 – Tool
- 11 – Undercarriage
- 12 – Counterweight

TECHNOLOGIES

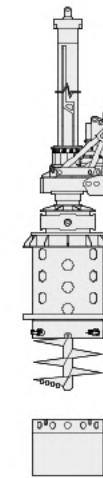
BORED PILES

UNCASED



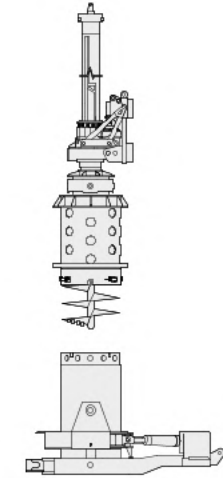
Ø 2400 mm
Depth 78 m

CASED



Ø 2000 mm
Depth 78 m

CASING OSCILLATOR



Ø 1800 mm

CROWD WINCH

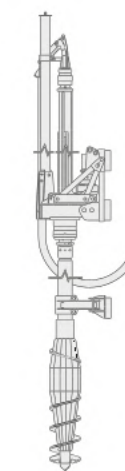
LONG STROKE

CFA-R



Ø 1200 mm
Depth 31 m

DISPLACEMENT PILES



Ø 620 mm
Depth 26,5 m



KEYPOINTS



SPM - SMART POWER MANAGEMENT

The ability to intelligently manage engine power according to each specific function translates into greater efficiency and productivity. A dedicated system continuously detects the required power, increasing it to its maximum level only when necessary.



CFM - FLEET MASTER

The CFM system, developed and refined in collaboration with Vodafone, instantly detects any alarms or malfunctions through an online platform accessible from PCs, tablets, and smartphones. Thanks to the standard integration of Vodafone Business connectivity, real-time monitoring enables immediate intervention in case of failures, significantly reducing downtime and optimizing rig productivity.



CDR - DATA RECORDER (OPTIONAL)

The CDR monitoring system of the drilling process, allows for the detection and recording of the working parameters. These data can be analyzed and processed to generate detailed jobsite reports.



ENVIRONMENT AWARENESS

The latest-generation Stage V diesel engines reduce pollutant emissions and allow operation with both low-sulfur fuels and HVO (Hydrotreated Vegetable Oil)—a high-performance, low CO₂ emission fuel taken from waste animal fats and used vegetable oils.



ERGONOMIC CABIN WITH HIGH VISIBILITY AND ACOUSTIC COMFORT

The cabin is designed to enhance operator comfort, reducing fatigue and increasing productivity while ensuring excellent visibility. It is also soundproofed to ensure optimal acoustic comfort and equipped with a climate control system.



EASIER AND SAFER MAINTENANCE

The hydraulically lifting cover panels provide easy access to components for inspection and maintenance. Additionally, the optional platforms and safety railings further enhance operator safety during these tasks.



AUTOMATED DRILLING WITH REAL-TIME PROGRESS VERIFICATION

The automated drilling functions available on the rig, in addition to simplifying its operation, allow the operator to stay updated in real-time on the drilling process progress through an in-cabin display.



SIMPLIFIED AND CUSTOMIZED USABILITY

Each operator can create their preferred control system, avoiding potential operational errors and enhancing the safety of the operations.



REMOTE CONTROL (OPTIONAL)

The remote control, which allows to perfectly manage all rig movements, enhances the operator's safety during loading and unloading operations from transport vehicles and during the setup phases for work.



OPTIMAL OPERATION IN EXTREME ENVIRONMENTS (OPTIONAL)

The rig can be equipped with a kit that ensures optimal machine performance and maximum efficiency even in particularly cold environments. This includes hydraulic oil with stable viscosity and thermal properties, a hydraulic oil preheating device, and an enhanced climate control system for the cabin.



FEATURES

STANDARD EQUIPMENT

- SPM control system – Smart Power Management.
- 12" touch screen display for visualization and setting of drilling parameters
- 7" auxiliary display to manage diesel engine, cameras and auxiliary systems of the cabin.
- Mast lifting and lowering aid.
- Drilling depth measurement and automatic mast verticality control.
- Automatic idling mode with engine start/stop for fuel saving.
- Hook on auxiliary line.
- Protective roof guard (FOPS compliant).
- Air conditioning system.
- Front platform for service toolbox.
- Cabin platform.
- Electric refueling pump.
- Casagrande Fleet Master remote rig control and monitoring via internet.

OPTIONAL EQUIPMENT

BASE CARRIER

- Lateral platform and handrails.
- Handrails on upper structure.
- Water pre-heating system for starting engine at low temperatures.
- Automatic centralized greasing system.
- Radio remote control for rigging, derigging, rig movement and positioning.
- Camera for panoramic view of the area around the rig.
- Automatic self-alignment of drilling axis.
- CDR - Casagrande Data Recorder.
- Transport kit according to required transport configuration.

ROTARY PILING

- Drilling axis extensions for larger diameter tools.
- Mast extensions for extended mast version.
- Cardanic joint for rotary head.
- Pull control and overload protection for crowd winch.
- Smart lowering and overload protection for main winch.
- Load cell on auxiliary winch for line pull monitoring.
- Arrangement for casing oscillator.
- Casing oscillator GLL 1500.

CFA

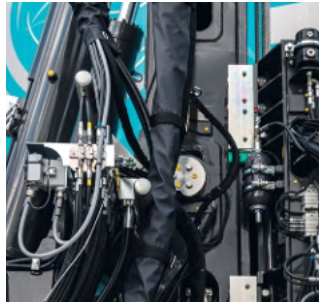
- Measurement and visualization of extraction and crowd force.
- Rotating cleaner hydraulically operated (CFA).
- Star cleaner (CFA).
- Lower guide with hydraulic opening.
- Hydraulic vibrator for cages.
- Feed control.
- Instrument for measuring, displaying and recording of drilling parameters. Complete with software for processing data on PC.
- Instrument for continuous extraction.



OPERATOR’S CABIN

The new Casagrande cabin offers a perfect balance of safety, comfort, and functionality, ensuring optimal working conditions for the operator in every situation.

Its wide glazed surfaces and optimized visibility provide a clear, unobstructed view of the drilling axis. The cabin comes equipped with a standard upper protective grid (FOPS compliant) and reinforced structure for maximum safety, while the front protective grid is available as an optional feature.



- **Excellent all-round visibility** — wide glazed surfaces and optimized lighting for maximum control and safety on site.
- **FOPS-certified protection grid** — ensures operator safety in every working condition.
- **High-efficiency air-conditioning system** — effective cooling and heating for optimal comfort in all climates.
- **Sound-insulated cabin** — reduced noise levels for greater concentration and operator well-being.
- **Ergonomic, adjustable and foldable seat** — designed for long working hours with superior comfort.
- **Simplified and customizable controls** — intuitive layout for quick operation and reduced fatigue.
- **Repositionable dual displays** — full customization and clear monitoring of machine functions.
- **Electric (CAN-bus) pedals** — precise, smooth response for accurate control.
- **Front and roof wipers** — clear visibility even in rain, mud, or low-light conditions.
- **USB ports and Bluetooth radio** — practical connectivity for modern work environments.

OPTIONAL FEATURES

ASSISTANCE SYSTEMS



12" Main display



7" Auxiliary display

AUTOMATIC IMPACT PROTECTION FOR THE KELLY BARS

An automatic control system slows down the rig main winch when the joints between the elements of the kelly bars meet. This ensures that the contact occurs at a reduced speed, preventing damage to the connection components.

INTERLOCKS IDENTIFICATION SYSTEM

The rig's display provides an accurate visualization of the kelly bar interlocks' position in relation to the rotary head. As a result, the operator can identify the correct interlock position, optimizing work time and reducing wear and damage to the kelly bar.

ADAPTIVE MACHINE CONTROL SYSTEM

A dedicated electronic system, available on all Casagrande machines, allows for adjusting the drill rig's response to the control activation speed, providing either a more immediate or relaxed operation depending on the operator's preferences and the type of excavation technology used.

AUTOMATIC DRILLING AND EXTRACTION CONTROL

In long stroke drilling systems (CFA, soil mixing, displacement), the advancement and extraction speeds of the tool can be automatically controlled, without the need for operator intervention. This optimizes concrete consumption and ensures the perfect execution of the pile, while simultaneously increasing the machine's productivity.

CPS – CASAGRANDE POSITIONING SYSTEM

The CPS satellite positioning system allows for locating the position of the pile to be drilled without the need for a ground-based visual reference. The precision is such that the system can be used in any condition, even in cases where physical staking cannot be followed.

TECHNICAL SPECIFICATIONS

BASE CARRIER

ENGINE		STAGE V-TIER 4	UN/ECE R96 *
Diesel engine model		CUMMINS L9 8.9	CUMMINS QSL 8.9
Rated output @ 1800 rpm	kW	313	275
Diesel tank capacity	l	720	720
Urea tank capacity	l	114	-

*Exhaust emission equivalent Stage III A / Tier 3.



Weight of base machine without attachment
~44 t

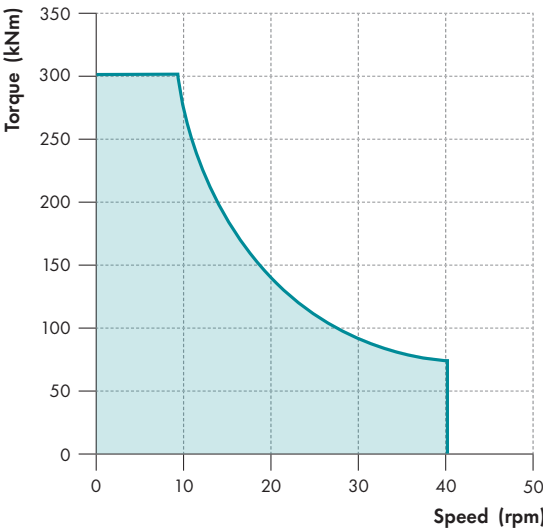
HYDRAULIC SYSTEM		
Hydraulic power	kW	282
Hydraulic pressure	bar	350
Main pumps flow rate	l/min	2x309 + 280 + 134
Hydraulic oil tank capacity	l	710
UNDERCARRIAGE		
Width of triple grouser track shoes	mm	900
Undercarriage width with retracted/extended tracks	mm	2980/4480
Overall tracks length	mm	5685
Travel speed	km/h	0÷1,3
Traction force nominal/effective	kN	575/460

WINCHES

MAIN WINCH		
Line pull on 1st layer nominal/effective	kN	280/230
Max. line speed	m/min	88
Rope diameter	mm	28
AUXILIARY WINCH		
Line pull on 1st layer nominal/effective	kN	87/70
Max. line speed	m/min	65
Rope diameter	mm	18

ROTARY HEAD

ROTARY HEAD R30.419

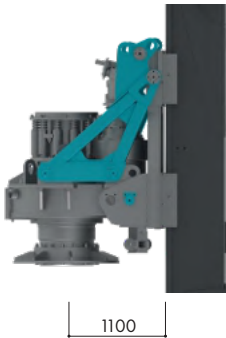


SPECIFICATIONS

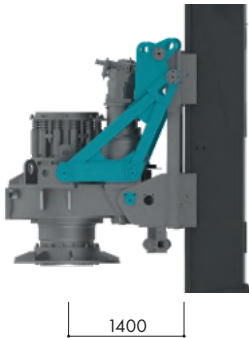
Max. torque: 302 kNm
Max. speed: 41 rpm

- N° 2 Hydraulic motors with electronically controlled displacement and customizable parameters for the better exploitation of rotary performances.
- Inner passage for kelly bars Ø 419 mm.
- Quick assembly and disassembly system of rotary head and slide using pins.
- Two assembly positions for easy and fast changing of drilling axle.

DRILLING AXIS

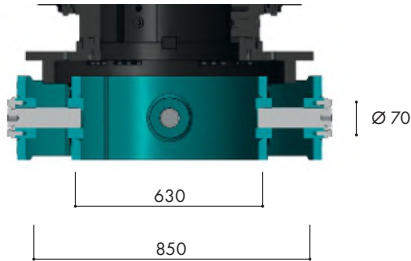


Standard



Extended

CARDANIC JOINT

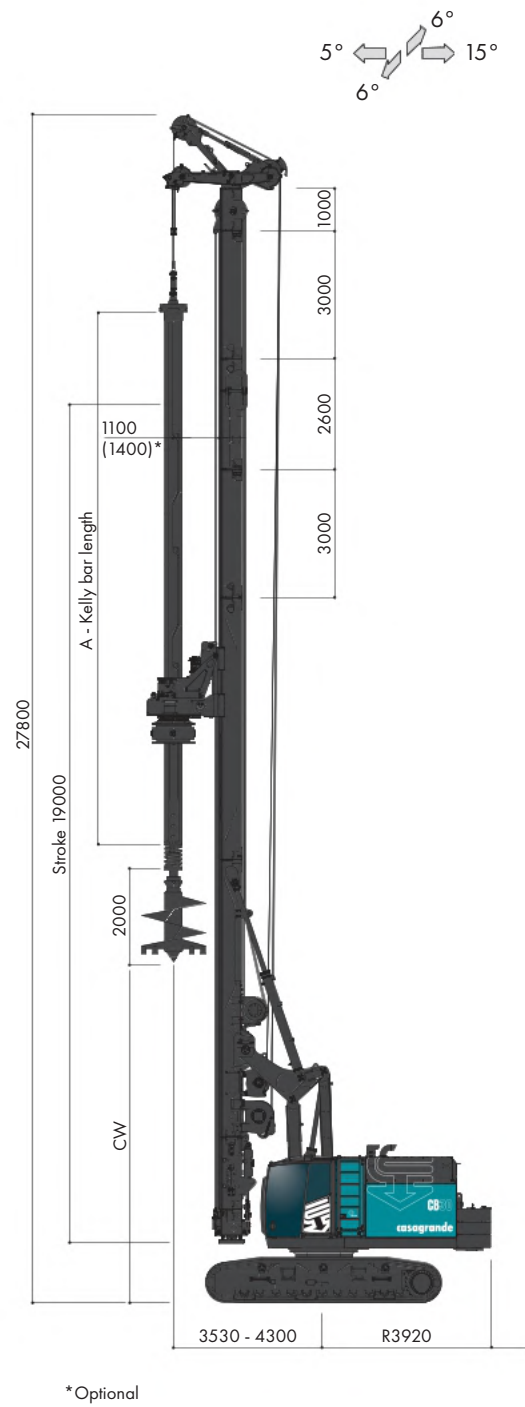


Type "C1"

CROWD WINCH		
Extraction force nominal/effective	kN	420/335
Crowd force nominal/effective	kN	420/335
Extraction/Crowd speed	m/min	19,4
Extraction/Crowd fast speed	m/min	35
Rope diameter	mm	26
Max. Stroke	mm	19000

BORED PILING

CROWD WINCH ARRANGEMENT



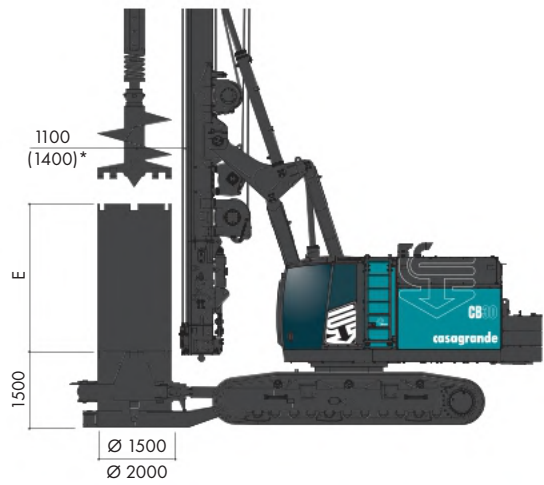
		CROWD WINCH 19	
DRILLING AXIS		1100	1400
Max. drilling diameter - uncased	mm	1800	2400
Max. drilling diameter - cased (Screw joints)	mm	1500	2000
Operating weight with kelly bar 3x11000	t	84	84

KELLY BAR SPECIFICATIONS

Type						CROWD WINCH 19		
Interlocking Friction	Nominal diameter	Number of elements	Max. Torque	Kelly stub	Nominal length (A)	Drilling depth	Max. ground clearance (CW)	Weight
type	mm	n°	kNm	mm	mm	m	m	kg
I	419	3	360	200	7500	20	9	4770
					9500	26	9	5675
					11000	30,5	9	6355
					12500	35	8	7050
					14500	41	6	7950
					16500	47	4	5475
I - F	419	4	300	200	7500	26,5	9	5715
					9500	34,5	9	6610
					11000	40,5	9	7460
					12500	46,5	8	8315
					14500	54,5	6	9450
					16500	62,5	4	10590
F	419	5	200	200	7500	33	9	5600
					9500	43	9	6810
					11000	50,5	9	7670
					12500	58	8	8560
					14500	68	6	9680
					16500	78	4	10820

ARRANGEMENT WITH CASING OSCILLATOR

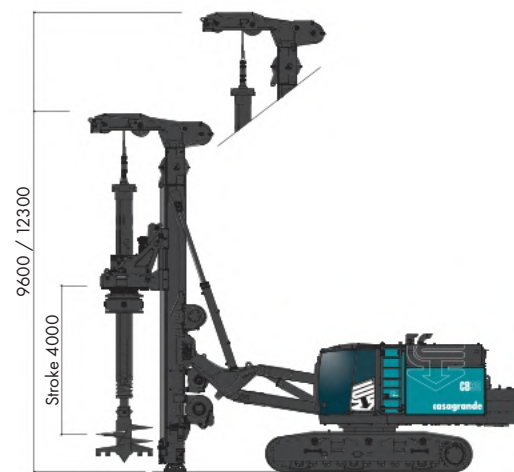
CROWD WINCH ARRANGEMENT



KELLY BAR LENGTH (A)		7500	9500	11000	12500	14500
Nominal casing length (E)	mm	11000	9000	7000	6000	n.u.
Length of casing without oscillator	mm	13000	11000	8000	7000	n.u.

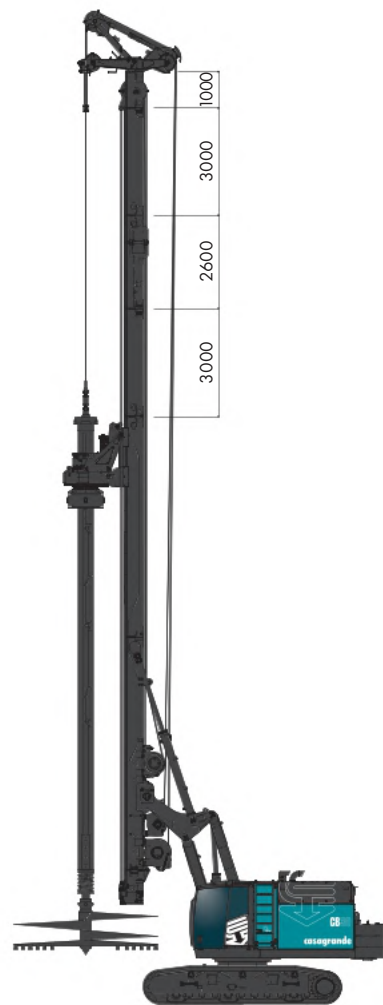
BORED PILING

LOW HEADROOM

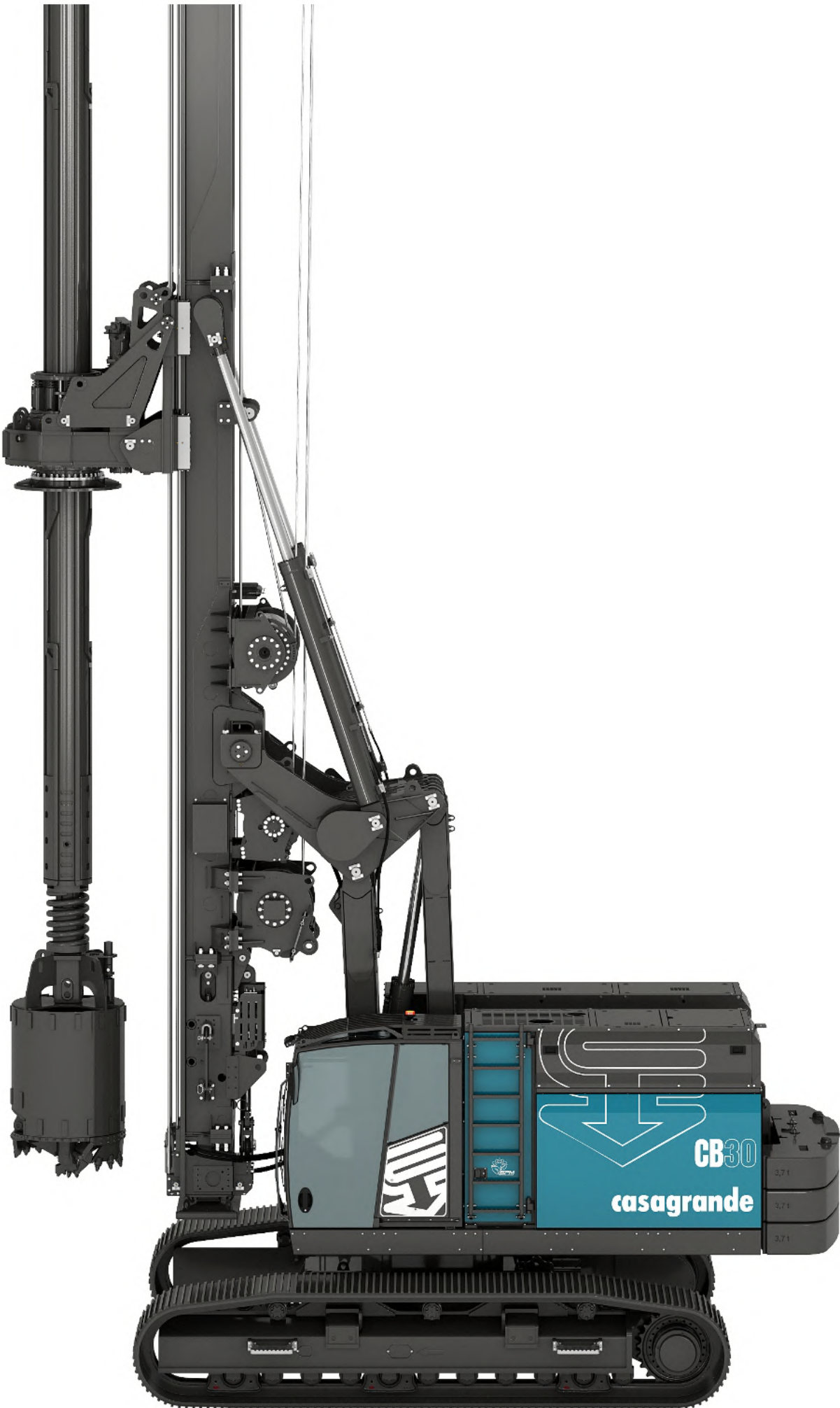


DRILLING DATA		LH
Max. drilling diameter	mm	1800
Max. drilling depth	m	21,6

UNDERMAST - CROWD WINCH

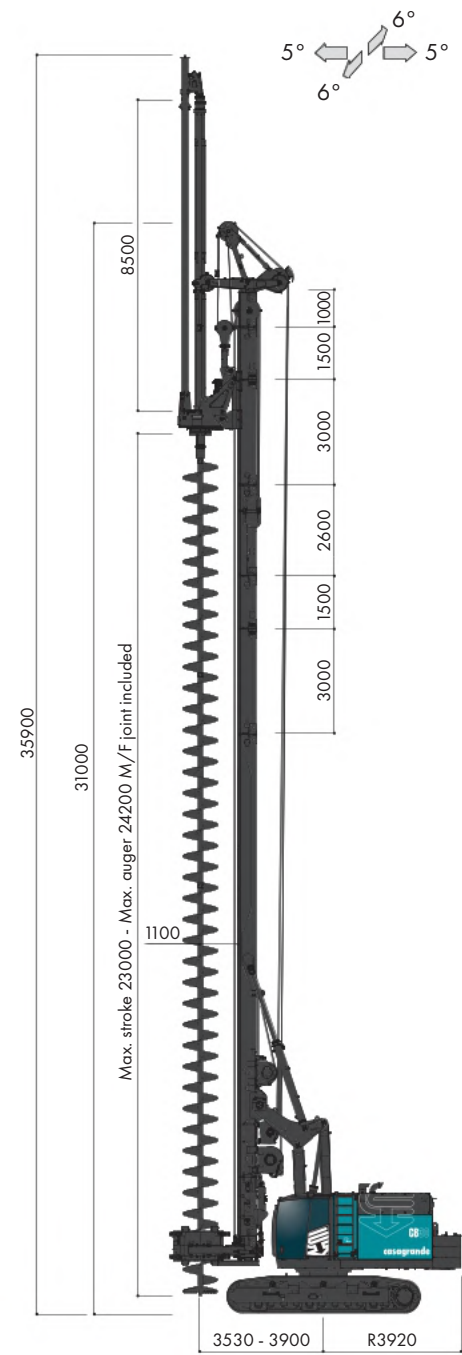


DRILLING DATA		UNDERMAST CW
Max. drilling diameter	mm	3800
Max. drilling depth	m	78



CFA PILING

CFA-R ARRANGEMENT



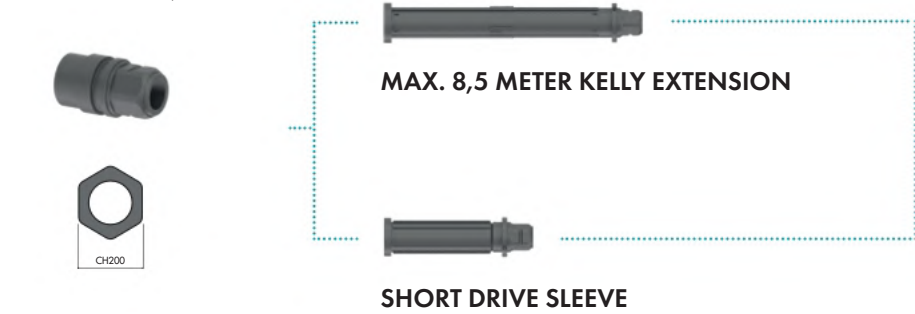
DRILLING DATA		CFA-R
Max. diameter	mm	1200
Max. depth	m	31
Max. depth with rotating auger cleaner	m	30
Extraction force nominal/ effective	kN	500/400
Extraction force (with additional pulls) nominal/ effective	kN	710/570
Crowd force nominal/ effective	kN	500/400
Weight w/o auger (approx.)	t	86,8

Data refer to depicted arrangement.

CFA PILING

CONCRETE SWIVEL
Max. pressure: 50 bar
Max. speed: 50 rpm

MALE JOINT
Max. allowable torque: 300 kNm

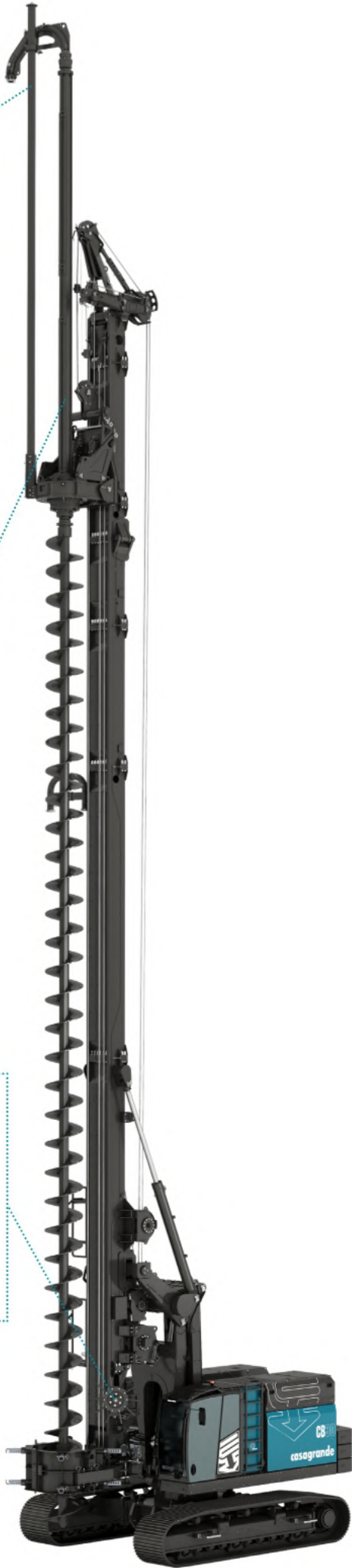
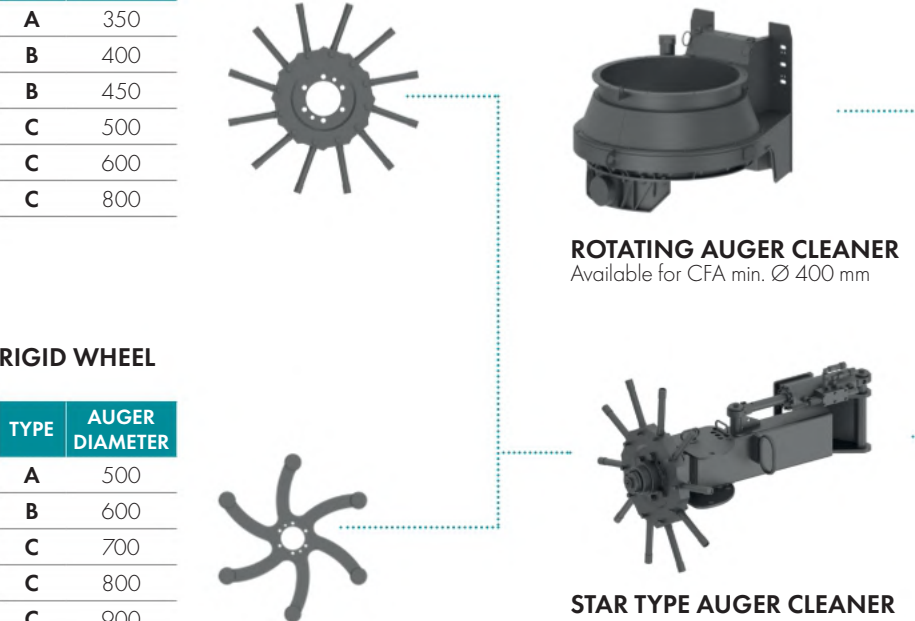


WHEEL WITH ROPE INSERTS

TYPE	AUGER DIAMETER
A	350
B	400
B	450
C	500
C	600
C	800

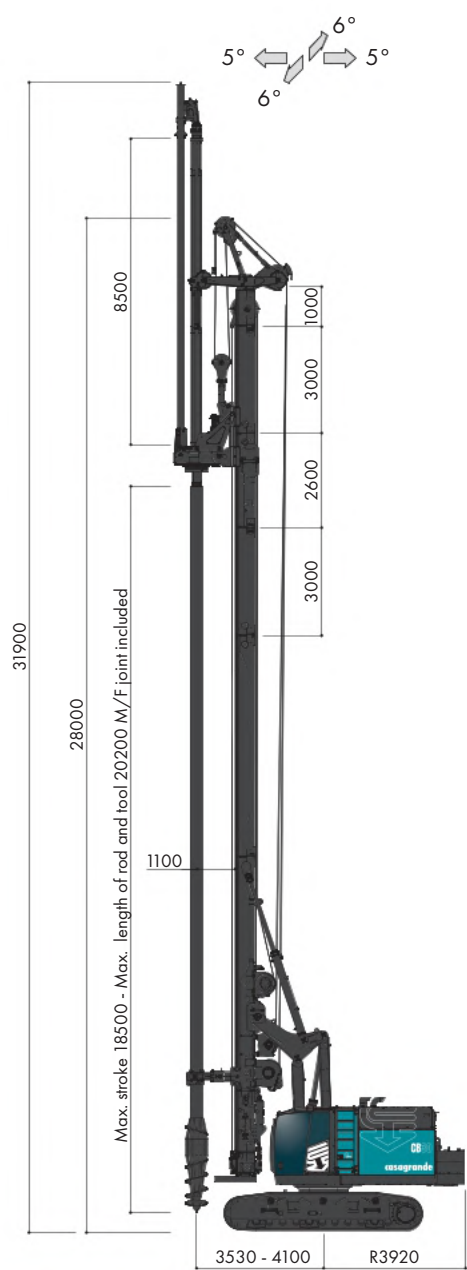
RIGID WHEEL

TYPE	AUGER DIAMETER
A	500
B	600
C	700
C	800
C	900

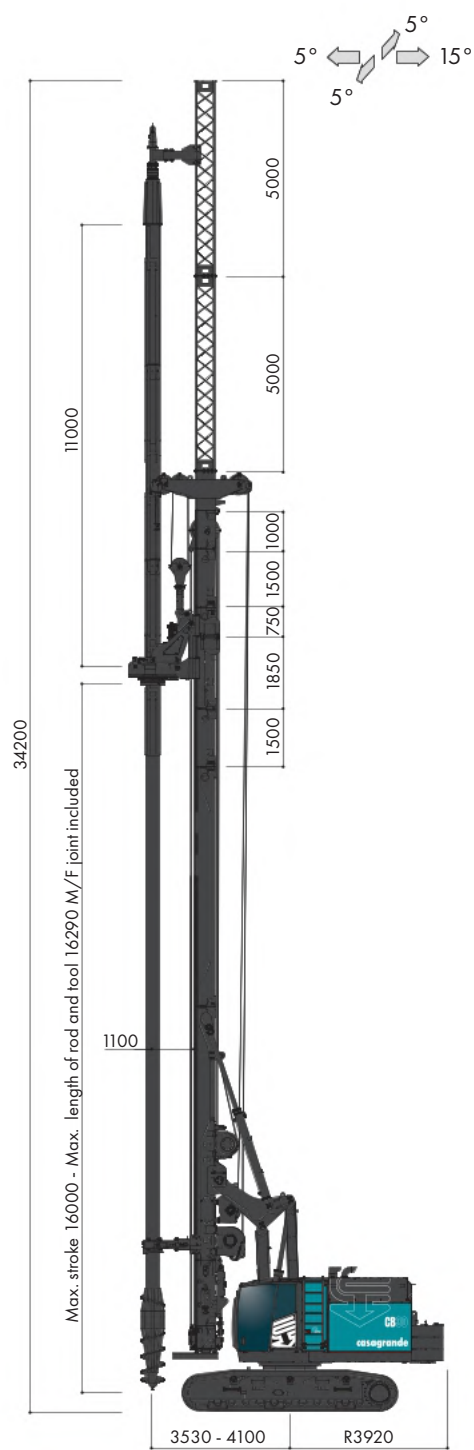


DISPLACEMENT PILES

DISPLACEMENT PILES ARRANGEMENT



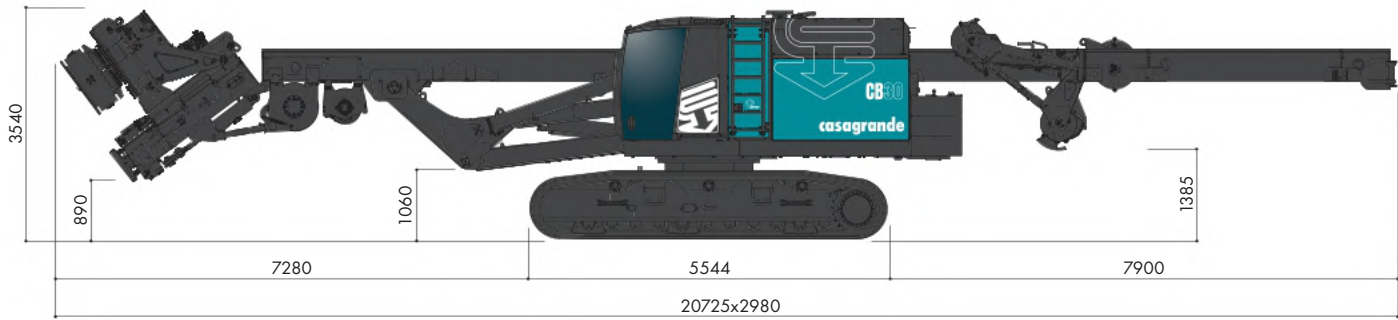
LONG DISPLACEMENT ARRANGEMENT



DRILLING DATA		DISPLACEMENT PILES	LONG DISPLACEMENT PILES
Max. diameter	mm	620	620
Max. depth	m	26,5	26,5
Extraction force nominal/ effective	kN	560/450	560/450
Extraction force (with additional pulls) nominal/ effective	kN	750/600	750/600
Crowd force nominal/ effective	kN	420/335	420/335
Weight w/o tool (approx.)	t	82,3	79,5

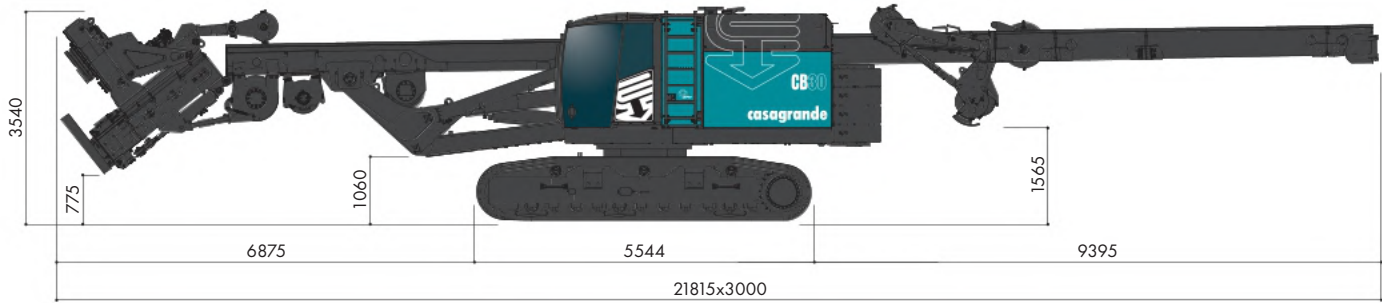
TRANSPORT DATA

CROWD WINCH ARRANGEMENT

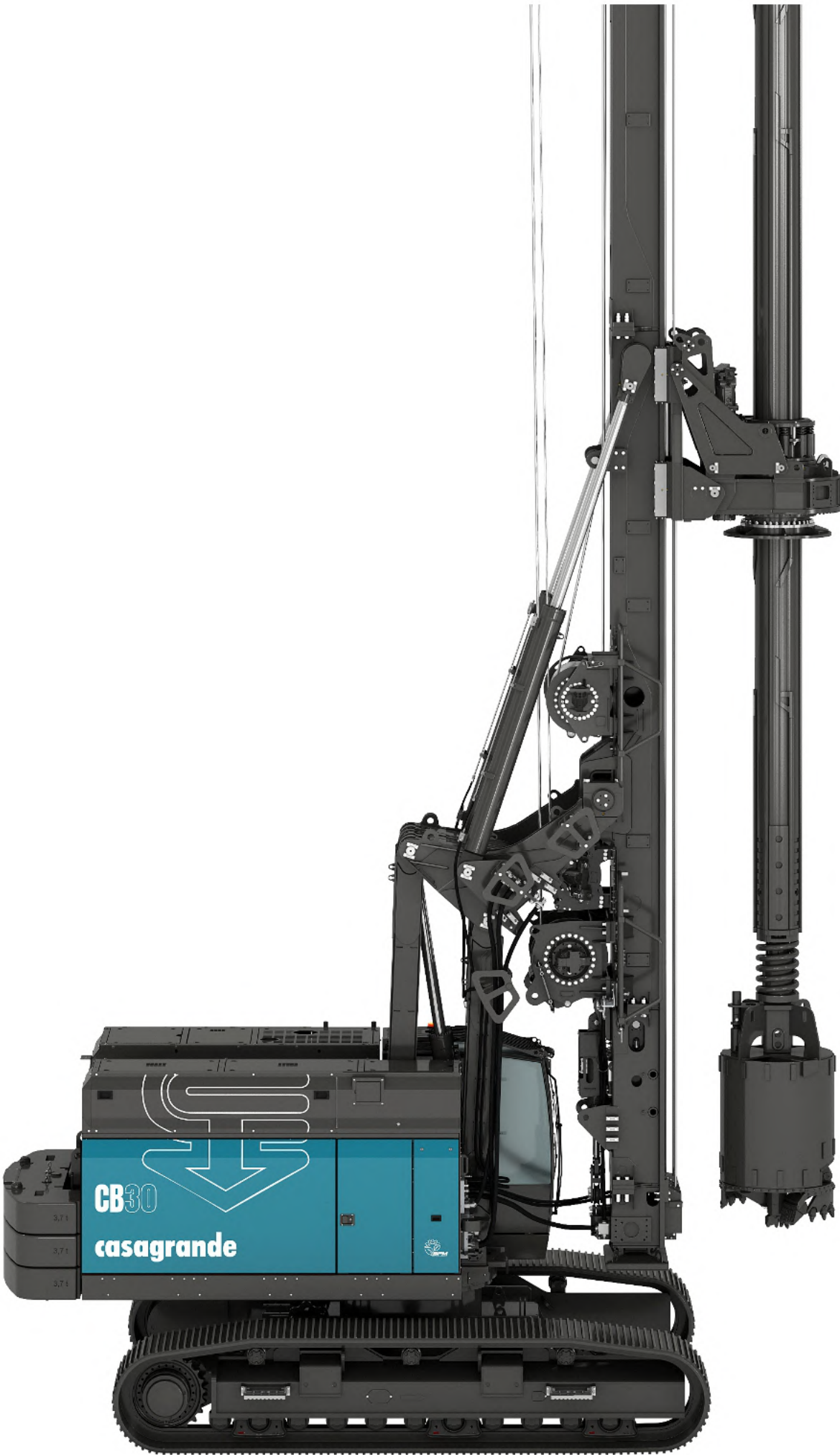


Weight of equipment in transport: 76800 kg (with 3x11000 friction kelly bars, kelly bars guide). Max. kelly length 11000 for on board transport.

CFA-R ARRANGEMENT



Weight of equipment in transport: 81200 kg



PREMIUM SUPPORT & WARRANTY PACKAGE



SMARTCARE - CASAGRANDE PREMIUM SUPPORT AND WARRANTY PACKAGE

Choosing Casagrande means investing in a machine designed for durability, precision, and maximum performance in special foundation works.

To preserve these values over time, SMARTCARE provides complete support throughout the entire lifecycle of your equipment — ensuring efficiency, reliability, and peace of mind.

SMARTCARE is offered as a separate package; availability and details may vary according to our sales conditions.

- **3-YEAR WARRANTY**
Up to 3 years or 4,500 operating hours of coverage to protect your investment and guarantee long-term reliability. Casagrande stands by your side even after delivery, ensuring lasting performance and operational confidence.
- **TECHNICAL ASSISTANCE & ORIGINAL SPARE PARTS**
Casagrande ensures on-site service with qualified technicians and genuine components specifically designed for your machine.
Each intervention extends equipment life, maintains optimal performance, and ensures operational continuity on every jobsite.
- **SMART SUPPORT**
Through advanced monitoring systems, Casagrande anticipates maintenance needs and recommends spare parts in advance. This proactive approach reduces downtime and keeps your rig operating at maximum efficiency.

OFFICIAL SPARE PARTS — PLANNED IN ADVANCE

Prearranged original spare parts kits are available for each scheduled maintenance phase:

- Ready-to-install solutions ensuring full compatibility
- Simplified logistics and optimized stock management
- Extended component life and minimized downtime

ON-SITE TECHNICIAN EVERY 250 HOURS

Every 250 operating hours, a certified Casagrande technician can perform:

- Preventive inspections and complete check-ups
- Routine maintenance and necessary adjustments
- On-site operator guidance and technical support

DEDICATED TEAM — MONITORING & SUPPORT

The SMARTCARE Team continuously monitors machine hours and performance via Casagrande Fleet Master.

- This system enables:
- Scheduled service interventions
 - Early identification of spare parts needs
 - Optimized maintenance planning and reduced downtime





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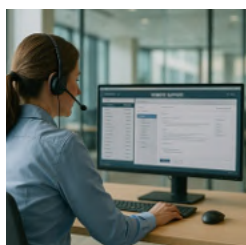
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**TECHNICAL
ASSISTANCE**



**TRAINING
COURSES**



**REMOTE ASSISTANT
SERVICE**



**SERVICE
BOXES**



**OFFICIAL
SPARE PARTS**