

EQUIPMENT & TECHNOLOGIES for Special Foundations

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WE BUILD RELIABILITY SINCE 1963.

For more than 60 years, Casagrande has been a trusted partner for foundation engineering in geotechnical construction projects worldwide, combining Italian engineering excellence with a comprehensive portfolio of equipment, technologies and lifecycle services designed to support customers from project planning to long-term operation.

Built on decades of experience and continuous innovation, our offering addresses the evolving challenges of modern construction through a unique combination of specialized machinery, advanced technologies and application expertise. From foundation works and ground improvement to tunneling and complex geotechnical interventions, every solution is developed to deliver performance, reliability and long-term value in the field.

This breadth of capability is the result of a constant commitment to research, engineering and customer collaboration. Every machine is designed to maximize productivity, safety and operational efficiency, while retaining the flexibility to adapt to specific project requirements and local site conditions.

At Casagrande, innovation begins with understanding our customers. By working closely with contractors and specialists around the world, we transform complex challenges into practical solutions. Whether delivering proven standard equipment or developing tailor-made configurations for unique applications, our objective remains the same: providing dependable technology, responsive support and lasting value throughout the entire lifecycle of the machine.



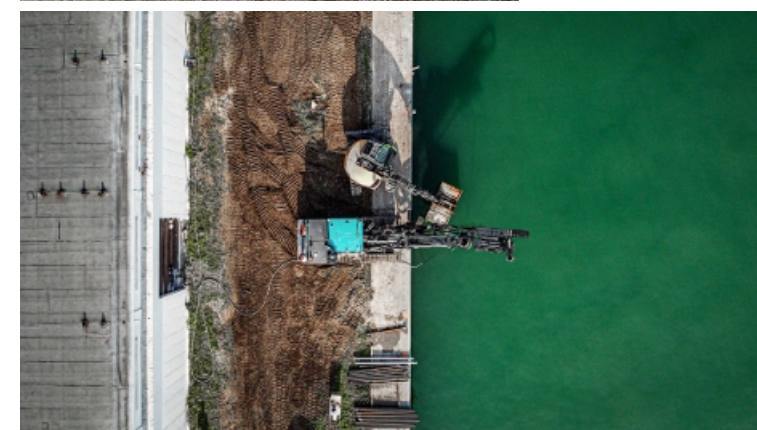
INTRODUCTION

Built on decades of engineering expertise, Casagrande develops equipment, technologies and services for foundation engineering, geotechnical construction and underground works worldwide.

Our portfolio spans piling rigs, crawler drills, multifunctional rigs, diaphragm wall equipment and tunnelling solutions, providing contractors with the versatility and performance required to tackle a wide range of project challenges. Designed and manufactured in-house, every machine combines robust engineering, advanced technology and practical field experience to deliver reliability, productivity and operational efficiency on-site.

Innovation extends beyond machine performance. Technologies such as Smart Power Management (SPM), Full Load Sensing (FLS) hydraulics and the C-Brain predictive maintenance system help optimize efficiency, improve energy management and support proactive service planning through continuous monitoring of critical machine components. By turning operational data into actionable insights, C-Brain helps maximize uptime, reduce unexpected downtime and extend equipment lifecycle.

Complementing our equipment offering, Casagrande provides comprehensive lifecycle support through technical assistance, training, spare parts and digital services, helping customers maximize productivity and long-term value throughout the life of the machine.





BRIDGES



TUNNELS



HIGHWAYS



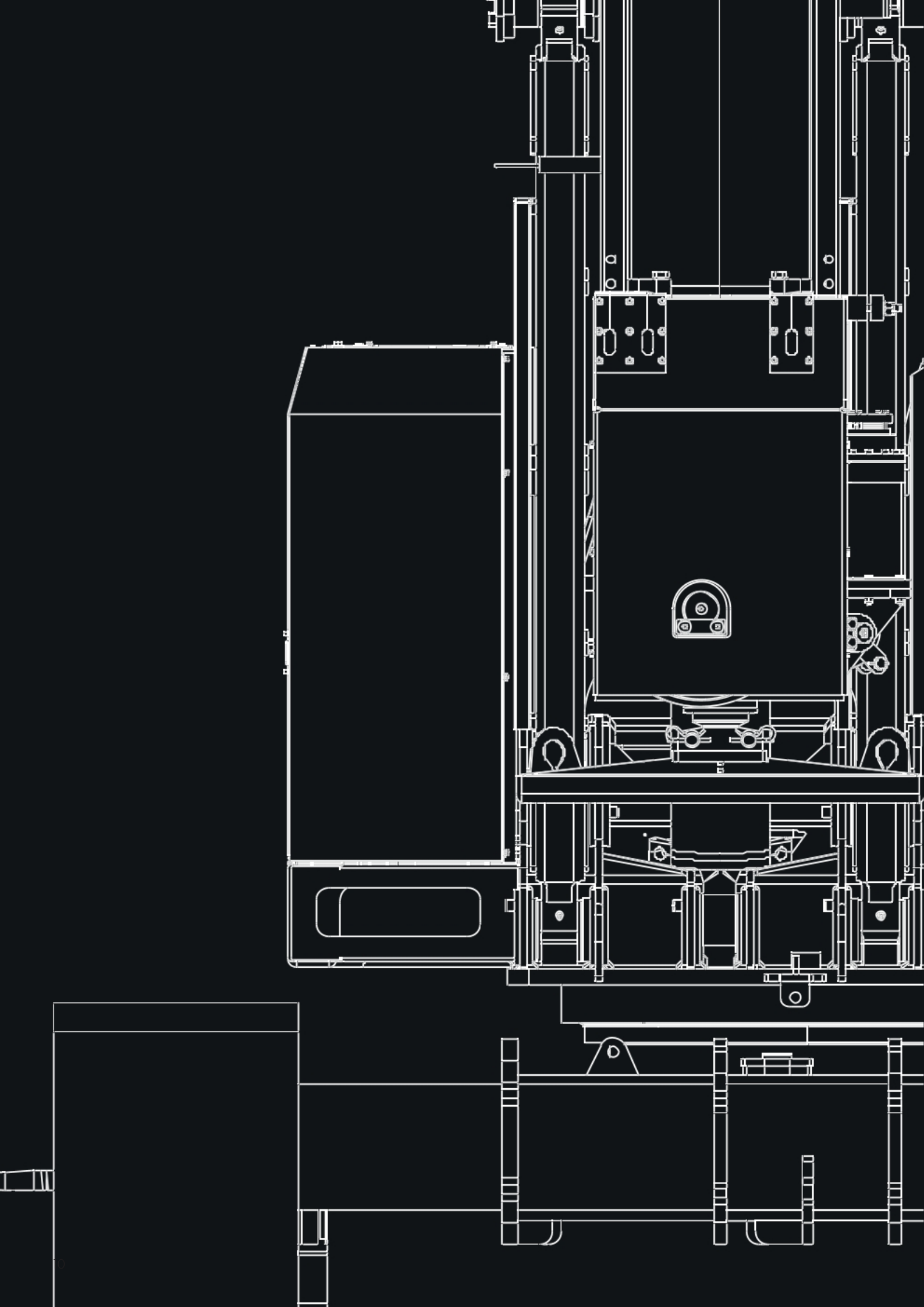
DAMS



BUILDINGS



RAILWAY LINES



PRODUCTS

PRODUCT RANGE



PILING RIGS

High-performance hydraulic piling rigs designed to meet the demands of modern deep foundation projects. Engineered for power, precision and versatility, they support a wide range of drilling technologies across infrastructure, industrial and urban applications.



CRAWLER DRILLS

Compact, powerful and adaptable drilling solutions developed for anchoring, micropiling and ground improvement works. Built to operate efficiently in confined spaces and challenging soil conditions, they deliver control and consistent performance on every jobsite.



MULTIFUNCTIONAL RIGS

Innovative rigs capable of executing multiple foundation technologies with a single machine. Designed to maximize flexibility, reduce fleet complexity and increase return on investment in dynamic and multi-application projects.



DIAPHRAGM WALLS

Advanced excavation systems engineered for deep retaining structures and underground works. Offering high verticality accuracy and reliable trench performance, they ensure precision and productivity in complex geotechnical conditions.



TUNNELLING

Specialized drilling rigs tailored for underground construction environments. Developed for forepoling, rock bolting and consolidation works, they provide stability, accuracy and operational efficiency in confined tunnel applications.



SPECIALS

Custom-engineered solutions created to address unique project requirements. From dedicated equipment to non-standard configurations, these systems reflect Casagrande's ability to deliver targeted technology for specialized foundation challenges.



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 the rig productivity.
- 

CDR - DATA RECORDER
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 customize their preferred control system, avoiding potential operational errors and enhancing the safety of the operations.
- 

AUTOMATIC GREASING SYSTEM
The automatic greasing system continuously ensures optimal lubrication of all moving mechanical parts, helping them function perfectly and extending their life.
- 

REMOTE CONTROL
The remote control enables precise management of all rig movements, improving operator safety during loading and unloading from transport vehicles and supporting efficient rigging, derigging and setup operations on-site.
- 

OPTIMAL OPERATION IN COLD ENVIRONMENTS
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.

PILING RIGS

Casagrande piling rigs represent a reliable and strategic solution for the execution of deep foundations across a wide range of infrastructure and geotechnical applications. They are engineered to operate consistently in complex jobsites, where precision, control and adaptability are essential to project success.

From major infrastructure works to high-density urban projects, from industrial building foundations to applications in difficult or layered ground conditions, Casagrande piling rigs provide stable, high-performance solutions. Their engineering approach focuses on delivering high levels of operational control, reducing uncertainties during execution and enabling efficient management of on-site resources.

The combination of robust structural design, advanced control systems and integrated safety solutions allows the rigs to withstand intensive working cycles while maintaining long-term reliability, quality of results and investment value. This approach supports contractors in meeting modern project requirements in terms of performance, operational sustainability and productivity continuity.

FEATURES

HEAVY-DUTY APPLICATIONS

Ideal for major infrastructure projects, bridges and viaducts

URBAN JOBSITES

Precision and control in confined spaces and sensitive areas

CHALLENGING GROUND CONDITIONS

Consistent performance in complex and variable soils

OPERATIONAL CONTINUITY

Designed for intensive and long working cycles

INVESTMENT VALUE

Long service life and strong residual value



TECHNOLOGIES

PILING RIGS

DESCRIPTION

Casagrande piling rigs are designed to support a wide range of foundation technologies, allowing contractors to select the most suitable configuration for each project. From large diameter rotary piling to CFA, displacement techniques and soil mixing, each setup is engineered to deliver precision, efficiency and consistent performance across diverse ground conditions.

APPLICATIONS

		BORED PILES	CFA	CASED CFA	DISPLACEMENT PILES	SOIL MIXING	NVSC
CB SERIES	CB16	●	●	●	●	●	●
	CB20	●	●	●	●	●	●
	CB26	●	●	●	●	○	●
	CB30	●	●	●	●	○	●
XP-2 SERIES	B200 XP-2	●	●	●	●	●	●
	B240 XP-2	●	●	●	●	●	●
	B250 XP-2	●	●	●	●	●	●
	B275 XP-2	●	●	●	●	●	●
	B300 XP-2	●	●	●	●	●	●
	B360 XP-2	●	●	●	●	●	●
	B400 XP-2	●	●	●	●	●	●
	B420 XP-2	●	●	●	●	●	●
	B470 XP-2	●	●	●	●	●	●
C-SERIES	C20	●	●	●	○	○	●
	C30	●	●	●	○	○	●
	C35	●	●	●	○	○	●
	C40	●	●	●	○	○	●

● PRIMARY APPLICATION

○ AVAILABLE CONFIGURATION

● CUSTOM PROJECT CONFIGURATION

Application coverage refers to standard and recommended configurations. Additional setups may be available upon project analysis.



CB SERIES



The CB Series represents the latest generation of Casagrande piling rigs, developed to address the present and future requirements of deep foundation projects worldwide. It is the result of a continuous technological evolution that combines engineering expertise, digital integration and a strong focus on real jobsite operating conditions.

Engineered for broad application versatility, the CB Series is designed to support a wide range of drilling and ground engineering applications, delivering high levels of control, precision and operational efficiency. The engineering solutions adopted ensure consistent performance in complex and demanding environments, while optimizing productivity, fuel consumption and overall site management.

Advanced automation, operator assistance systems and integrated connectivity define a new operating experience, focused on safety, reliability and long-term investment value. The CB Series sets a new Casagrande benchmark for next-generation piling rigs.

- **SMART POWER MANAGEMENT (SPM)**
Intelligent engine power control that optimizes performance and fuel consumption according to the actual operating demand.
- **ADVANCED OPERATOR INTERFACE**
Dual display system with a main 12" touchscreen and auxiliary screen for clear, intuitive control of drilling parameters and machine functions.
- **AUTOMATED MAST CONTROL**
Integrated systems for drilling depth measurement and automatic mast verticality ensure accuracy and consistency during operations.
- **3-YEAR WARRANTY (SMARTCARE)**
Premium support package with 3-year warranty or 4,500 operating hours, technical assistance and proactive service.
- **REMOTE MONITORING & FLEET MANAGEMENT**
Casagrande Fleet Master enables real-time machine monitoring and remote diagnostics via internet, supporting uptime and productivity.

EQUIPMENT RANGE

CB SERIES - PILING RIGS



TECHNICAL SPECIFICATIONS

CB SERIES - PILING RIGS

RATING PLATE - BORED PILING

	MAX. DIAMETER	MAX. DEPTH	ROTARY HEAD TORQUE	ENGINE POWER	WEIGHT
	mm	m	kNm	kW	t
CB16	1800	57	169	209	44
CB20	1800	57	204	231	50
CB26	2100	68	260	313	76
CB30	2400	78	302	313	84

BORED PILING - LOW HEADROOM ARRANGEMENT



DRILLING DATA		CB16	CB20	CB26	CB30
Max. drilling diameter	mm	1500	1500	1500	1800
Max. drilling depth	m	15,2	19,7	21,6	21,6
Stroke	mm	2300	2300	4000	4000
Max. height	mm	8500	8500	9600	9600

BORED PILING - UNDERMAST ARRANGEMENT



DRILLING DATA		CB16	CB20	CB26	CB30
Max. drilling diameter	mm	3000	3000	3500	3800
Max. drilling depth	m	50	50	68	78
Stroke	mm	5200	5200	9800	9800
Max. kelly bar length	mm	11000	11000	11000	11000

TECHNICAL SPECIFICATIONS

CB SERIES - PILING RIGS

CFA PILING - CFA-R ARRANGEMENT



DRILLING DATA		CB16	CB20	CB26	CB30
Max. diameter	mm	900	900	1200	1200
Max. depth	m	23	23	24,5	31
Max. depth with rotating auger cleaner	m	20,4	21,8	23,5	30
Extraction force nominal/effective	kN	343/274	343/274	560/450	500/400
Extraction force (with additional pulls) nominal/effective	kN	500/400	670/536	750/600	710/570
Crowd force nominal/effective	kN	343/274	343/274	420/335	500/400
Weight w/o auger (approx.)	t	45	46,5	74,8	86,8

CFA PILING - CFA ARRANGEMENT



DRILLING DATA		CB16	CB20
Max. diameter	mm	900	900
Max. depth	m	25,5	28
Max. depth with rotating auger cleaner	m	24,3	26,8
Extraction force nominal/effective	kN	560/450	560/450
Extraction force (with additional pulls) nominal/effective	kN	-	-
Crowd force nominal/effective	kN	106/86	106/86
Weight w/o auger (approx.)	t	44	48

TECHNICAL SPECIFICATIONS

CB SERIES - PILING RIGS

DISPLACEMENT PILES ARRANGEMENT



DRILLING DATA		CB16	CB20	CB26	CB30
Max. diameter	mm	420	520	520	620
Max. depth	m	21,6	22,5	26,5	26,5
Extraction force nominal/effective	kN	343/274	343/274	560/450	560/450
Extraction force (with additional pulls) nominal/effective	kN	500/400	670/536	750/600	750/600
Crowd force nominal/effective	kN	343/274	343/274	420/335	420/335
Weight w/o tool (approx.)	t	45	46,5	75,5	82,3

SOIL MIXING ARRANGEMENT



DRILLING DATA		CB16	CB20
Max. diameter	mm	1000	1000
Max. depth	m	21,1	22,5
Extraction force nominal/effective	kN	343/274	343/274
Extraction force (with additional pulls) nominal/effective	kN	670/536	670/536
Crowd force nominal/effective	kN	343/274	343/274
Weight w/o tool (approx.)	t	45	46,5

TECHNICAL SPECIFICATIONS

CB SERIES - PILING RIGS

NON VIBRATION STONE COLUMNS (NVSC) ARRANGEMENT



DRILLING DATA		CB20
Max. tool diameter	mm	550
Max. depth	m	12
Extraction force nominal/effective	kN	343/274
Crowd force nominal/effective	kN	343/274
Weight	t	52



The XP-2 Series is a range of piling rigs engineered to deliver reliable and consistent performance in demanding foundation applications. It represents a targeted technical evolution, built on optimized hydraulic systems and proven engineering solutions, designed to ensure control, precision and operational continuity on-site.

At the core of the XP-2 Series is a high-efficiency hydraulic system, developed to directly manage hydraulic pumps and available power. This architecture enables smooth and responsive machine movements, reducing load losses while optimizing fuel consumption and productivity, even during intensive working cycles.

Designed as a versatile machine, the XP-2 Series supports a wide range of foundation and ground engineering techniques. High modularity, combined with advanced assistance and monitoring systems, helps operators maintain high execution quality, operational safety and full control of the drilling process. The XP-2 Series stands as a solid and versatile solution for contractors seeking proven performance and long-term investment value.

- **OPTIMIZED HYDRAULIC EFFICIENCY**
Direct pump control reduces power losses and ensures precise, responsive operations.
- **APPLICATION VERSATILITY**
Suitable for a wide range of piling and ground improvement techniques.
- **CONSISTENT PERFORMANCE**
Engineered for reliable operation under heavy-duty conditions and intensive work cycles.
- **OPERATOR SUPPORT SYSTEMS**
Automation and real-time monitoring enhance control and ease of operation.
- **PROVEN ENGINEERING SOLUTION**
A consolidated solution focused on productivity, reliability and long-term value.

EQUIPMENT RANGE

XP-2 SERIES - PILING RIGS



TECHNICAL SPECIFICATIONS

XP-2 SERIES - PILING RIGS

RATING PLATE - BORED PILING

	MAX. DIAMETER	MAX. DEPTH	ROTARY HEAD TORQUE	ENGINE POWER	WEIGHT
	mm	m	kNm	kW	t
B200	1800	68	210	246	65
B240	1800	78	263	283	72
B250	2100	78	263	336	86
B275	2100	78	300	336	92
B300	2300	89,5	300	472	100
B360	2700	99	400	472	123
B400	2700	99	467	472	124
B420	3500	101	467	472	144
B470	3500	111	467	472/563	167

BORED PILING - LOW HEADROOM ARRANGEMENT



DRILLING DATA		B200	B240	B250	B275	B300
Max. drilling diameter	mm	2100	2100	2100	2100	2600
Max. drilling depth	m	21,1	17	20,5	20,5	20,2
Stroke	mm	2500	3000	2500	2100	2500
Max. height	mm	8500	10000	8500	8500	8500

BORED PILING - UNDERMAST ARRANGEMENT



DRILLING DATA		B200	B240	B250	B275	B300	B360	B400
Max. drilling diameter	mm	3100	3500	3400	3400	4200	4500	4500
Max. drilling depth	m	48	54	54	54	75	87	87
Stroke	mm	6000	4300	6500	6500	4900	4900	4900
Kelly bars max. length	mm	11000	14500	12500	12500	16500	19000	19000

TECHNICAL SPECIFICATIONS

XP-2 SERIES - PILING RIGS

CFA PILING - CFA ARRANGEMENT



DRILLING DATA		B200	B240 (CFA-R)	B250	B275	B300
Max. diameter	mm	1000	1000	1200	1200	1200
Max. depth	m	29,7	27	31,8	31,8	31,8
Max. depth with rotating auger cleaner	m	28,7	26	30,6	30,6	28,7
Extraction force nominal/effective	kN	825/660	750/600	1125/900	1125/900	1125/900
Crowd force nominal/effective	kN	-	420/335	-	-	-
Weight w/o auger (approx.)	t	65	71	86	92	100

DRILLING DATA		B360	B400	B420	B470
Max. diameter	mm	1200	1200	1200	1500
Max. depth	m	35	35	39	41
Max. depth with rotating auger cleaner	m	34,9	33,9	37,9	39,9
Extraction force nominal/effective	kN	1245/1000	1245/1000	1250/1000	1490/1190
Crowd force nominal/effective	kN	-	-	-	-
Weight w/o auger (approx.)	t	123	124	144	167



The C-Series reflects Casagrande’s proven expertise in piling rig design, offering a solid and dependable solution for well-established foundation applications. It is a range built on proven technical solutions, designed to deliver reliability, functionality and straightforward operation on standard jobsites.

The design is based on conventional electro-hydraulic systems and an essential control interface, enabling intuitive use and direct machine management. The architecture of the C-Series prioritizes functional clarity and structural robustness, allowing efficient operations without the complexity of more advanced systems.

The C-Series is conceived as a solid rig for the main piling technologies, particularly suited to bored piles and CFA applications, offering a practical and dependable solution for the most common foundation works.

- **TRADITIONAL DESIGN APPROACH**
Developed using well-proven and consolidated technical solutions.
- **STRAIGHTFORWARD OPERATION**
Essential controls and intuitive machine management on-site.
- **FUNCTIONAL RELIABILITY**
Designed to ensure operational continuity in standard applications.
- **ESTABLISHED PILING TECHNIQUES**
Suitable for bored piles and CFA in typical working conditions.
- **STRUCTURAL ROBUSTNESS**
Casagrande build quality focused on durability and long-term use.

EQUIPMENT RANGE

C-SERIES - PILING RIGS



TECHNICAL SPECIFICATIONS

RATING PLATE - BORED PILING

	MAX. DIAMETER	MAX. DEPTH	ROTARY HEAD TORQUE	ENGINE POWER	WEIGHT
	mm	m	kNm	kW	t
C20	1200	37	100	142	28
C30	1250	42	125	186	35
C35	1500	50	135	172	39,7
C40	1500	50	177	201	41,8

CFA PILING - CFA ARRANGEMENT



DRILLING DATA		C20	C30	C35	C40
Max. diameter	mm	800	800	800	800
Max. depth	m	16,6	20,2	23,6	23,6

CRAWLER DRILLS

Casagrande crawler drills are designed to deliver precise, reliable and efficient drilling performance in a wide range of ground engineering and foundation applications. Developed to operate in demanding jobsite conditions, they combine compact design, high drilling accuracy and robust construction to support contractors in achieving consistent and controlled results.

These machines are engineered to offer a high degree of operational control, allowing operators to manage drilling parameters with confidence even in complex or sensitive environments. Their adaptability makes them suitable for multiple applications such as anchoring, micropiling, soil nailing and jet grouting, supporting both routine works and technically challenging projects.

The design philosophy focuses on durability, ease of operation and flexibility. Modular configurations and well-balanced structures allow the crawler drills to be configured according to specific project requirements, while maintaining stability and precision during drilling operations. This approach enables contractors to optimize productivity, reduce downtime and maintain high quality standards throughout the execution of the work.

FEATURES

PRECISION DRILLING CONTROL

Accurate management of drilling parameters for consistent results

APPLICATION FLEXIBILITY

Suitable for anchoring, micropiles, soil nailing and jet grouting

COMPACT AND STABLE DESIGN

Effective operation in confined or difficult jobsites

ROBUST CONSTRUCTION

Engineered for continuous work in demanding conditions

OPERATIONAL EFFICIENCY

Reduced downtime and optimized productivity on-site



TECHNOLOGIES

CRAWLER DRILLS

DESCRIPTION

Crawler drills can be configured for multiple drilling and ground improvement applications, adapting to varying site constraints and soil characteristics. Whether for anchoring, micropiles, soil nailing or jet grouting, each arrangement is optimized to ensure accurate execution, controlled drilling parameters and operational flexibility.

APPLICATIONS

	MICROPILES SINGLE HEAD	MICROPILES DOUBLE HEAD	ANCHORS SINGLE HEAD	ANCHORS DOUBLE HEAD	JET GROUTING	LIMITED ACCESS
C3 ^{XP-2}	●	●	●	●	○	●
C3S ^{XP-2}	●	●	●	●	○	●
C4 ^{XP-2}	●	○	●	○	○	●
C5R ^{XP-2}	●	○	●	○	○	●
C5 ^{XP-2}	●	○	●	○	●	●
C6-2	●	●	●	●	●	●
C6 ^{XP-2}	●	●	●	●	●	●
M9 ^{XP-2}	●	●	●	●	●	●
C7 ^{XP-2}	●	●	●	●	●	●
C8 ^{XP-2}	●	●	○	○	●	●
C9 ^{XP-2}	●	●	●	●	●	●
C10 ^{XP-2}	●	●	○	○	●	●
C12 ^{XP-2}	●	●	○	○	●	●
C14 ^{XP-2}	●	●	○	○	●	●
C16 ^{XP-2}	●	●	○	○	●	●

● PRIMARY APPLICATION

○ AVAILABLE CONFIGURATION

● CUSTOM PROJECT CONFIGURATION

Application coverage refers to standard and recommended configurations. Additional setups may be available upon project analysis.





Casagrande XP-2 crawler drills are engineered to address demanding ground engineering and drilling applications, where high performance, precise control and energy efficiency are critical. They represent the technological evolution of Casagrande crawler drills, developed to deliver reliable results even under the most challenging operating conditions.

At the core of the XP-2 philosophy is an advanced hydraulic system with intelligent power management and electronic pump control. This architecture ensures fast, smooth and accurate movements while reducing load losses and optimizing fuel consumption. The machines are designed as versatile crawler drills, capable of supporting anchoring, micropiling and jet grouting operations with high stability and operational continuity.

The compact machine layout, combined with advanced kinematics and operator assistance systems, allows effective operation in confined spaces and extreme working positions, enhancing productivity, process control and on-site safety.

- **HIGH-EFFICIENCY XP-2 HYDRAULIC SYSTEM**
Load sensing pump control for precise performance and optimized fuel consumption.
- **OPERATIONAL FLEXIBILITY**
Advanced kinematics designed to operate in complex and restricted jobsites.
- **PERFORMANCE FOR DEMANDING APPLICATIONS**
Engineered for anchoring, micropiles and jet grouting works.
- **ADVANCED OPERATOR SUPPORT**
Automation and real-time monitoring of drilling parameters.
- **RELIABILITY AND PRODUCTIVITY CONTINUITY**
Heavy-duty components and robust structure for intensive working cycles.

EQUIPMENT RANGE

XP-2 SERIES - CRAWLER DRILLS



TECHNICAL SPECIFICATIONS

XP-2 SERIES - CRAWLER DRILLS

RATING PLATE

	ENGINE POWER	TORQUE	STROKE - SINGLE ROTARY HEAD	EXTRACTION/ CROWD FORCE	WEIGHT
	kW	kNm	m	kN	t
C3 ^{XP-2}	100	15,2	3,2	50	6,7
C3S ^{XP-2}	100	14,8	3,85	100	8
C4 ^{XP-2}	100	12,2	4	50	8,5
C5R ^{XP-2}	111	15,2	4	60	7,9 + 2,1
C5 ^{XP-2}	115	17,7	4	65	13
C6 ^{XP-2}	142	22	7,3	100	15
C6-2	142	22,2	7,3	100	15
M9 ^{XP-2}	209	30	10	100	21
C7 ^{XP-2}	201	70	10	87	22
C8 ^{XP-2}	209	70	10	87	25
C9 ^{XP-2}	209	70	10	150	27
C10 ^{XP-2}	209	70	10	150	28
C12 ^{XP-2}	209	70	13	150	30
C14 ^{XP-2}	209	30	13	120	33
C16 ^{XP-2}	209	70	16	188	36



TECHNICAL SPECIFICATIONS

XP-2 SERIES - CRAWLER DRILLS

JET GROUTING ARRANGEMENT

	DEPTH IN SINGLE PASSAGE
	m
C4 ^{XP-2}	11
C5 ^{XP-2}	13
C6 ^{XP-2}	20
C6-2	20
M9 ^{XP-2}	23
C7 ^{XP-2}	26
C8 ^{XP-2}	28
C9 ^{XP-2}	26
C10 ^{XP-2}	28
C12 ^{XP-2}	28,5
C14 ^{XP-2}	36
C16 ^{XP-2}	36



MULTIFUNCTIONAL RIGS

Casagrande Multifunctional Rigs are developed to meet a key requirement of modern contractors: performing different foundation technologies with a single machine. This approach reduces fleet complexity, optimizes capital investment and increases operational flexibility across diverse projects.

Designed to be rapidly reconfigured, these rigs can support sheet piling, hydraulic hammer applications, CFA, soil mixing and cutter soil mixing, adapting to changing jobsite demands while maintaining stability, control and productivity.

The multifunctional concept allows contractors to maximize machine utilization throughout the project lifecycle, minimizing idle time between applications and improving overall return on investment. Multifunctional Rigs represent a strategic solution for companies operating in dynamic markets where adaptability and responsiveness are critical.

FEATURES

MAXIMUM APPLICATION VERSATILITY

Configurable for multiple foundation and ground improvement technologies

REDUCED FLEET INVESTMENT

One rig covering a wide range of applications

FAST JOBSITE RECONFIGURATION

Efficient changeover between working setups

HIGHER MACHINE UTILIZATION

Minimized downtime and improved productivity

STRATEGIC OPERATIONAL FLEXIBILITY

Ideal for contractors managing diverse and evolving projects



TECHNOLOGIES

MULTIFUNCTIONAL RIGS

DESCRIPTION

The multifunctional concept allows a single machine to perform different foundation technologies through dedicated mast and equipment configurations. From sheet piling and hydraulic hammers to CFA and soil mixing, these arrangements enable rapid jobsite adaptation while maintaining structural stability and productivity.

APPLICATIONS - TELESCOPIC LEADER MAST

	SHEET PILING	BORED PILES	CFA	CASED CFA	DISPLACEMENT PILES	HYDRAULIC HAMMER	SOIL MIXING	CUTTER SOIL MIXING
CV16-T	●	●	●	●	●	●	●	●
CV19-T	●	●	●	●	●	●	●	●
CV21-T	●	●	●	●	●	●	●	●
PRIMARY APPLICATION AVAILABLE CONFIGURATION CUSTOM PROJECT CONFIGURATION								

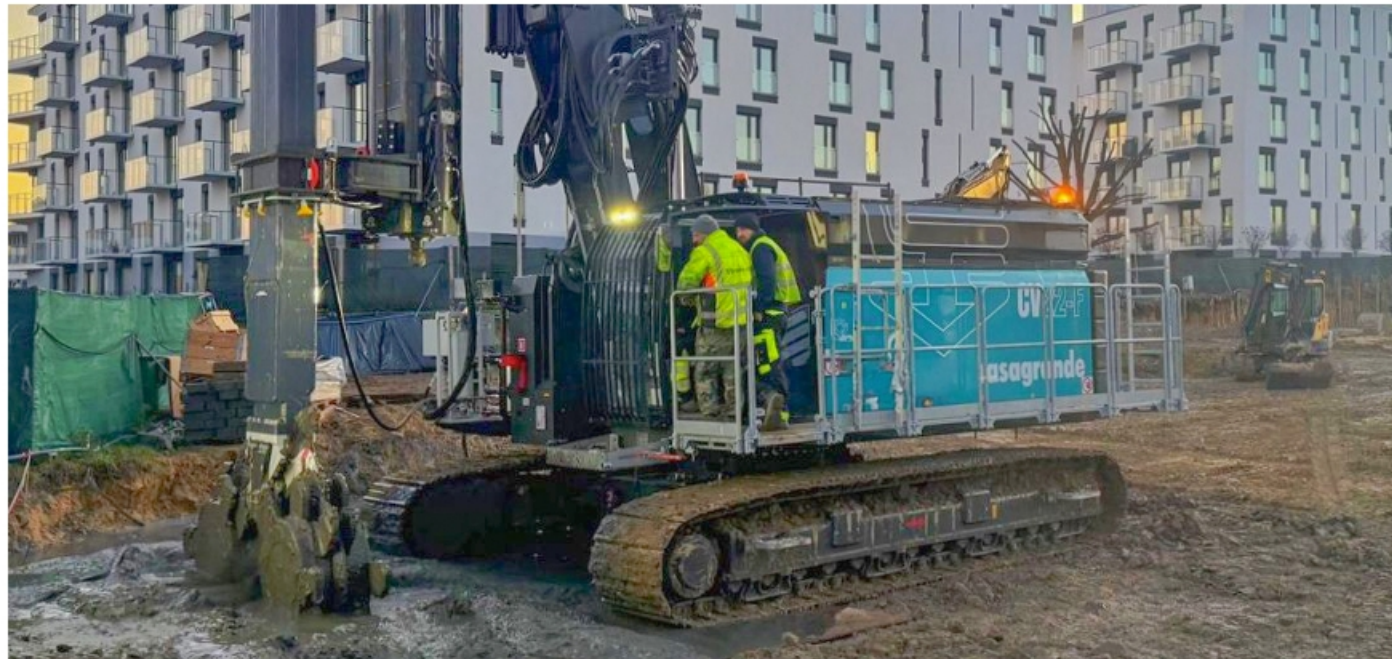
Application coverage refers to standard and recommended configurations. Additional setups may be available upon project analysis.

APPLICATIONS - FIXED LEADER MAST

	SHEET PILING	BORED PILES	CFA	CASED CFA	DISPLACEMENT PILES	HYDRAULIC HAMMER	SOIL MIXING	CUTTER SOIL MIXING
CV18-F	●	●	●	●	●	●	●	●
CV22-F	●	●	●	●	●	●	●	●
PRIMARY APPLICATION AVAILABLE CONFIGURATION CUSTOM PROJECT CONFIGURATION								

Application coverage refers to standard and recommended configurations. Additional setups may be available upon project analysis.





Casagrande Multifunctional Rigs are engineered to deliver maximum flexibility in deep foundation and ground improvement projects. The CV Series has been developed as a multi-application machine capable of quickly adapting to different foundation technologies, reducing the need for dedicated machines and optimizing overall investment. Thanks to the universal coupling system and modular mast configuration, these rigs can be equipped for sheet piling with vibrators, hydraulic hammers, CFA, cased CFA, soil mixing and cutter soil mixing. The $\pm 90^\circ$ front-the-wall kinematics enable efficient operation in confined spaces and complex urban environments.

The range includes two complementary configurations:

- **CV-F – Fixed Leader Mast**
Designed for heavy-duty applications requiring maximum structural stability, precise verticality control and the ability to support high loads. Ideal for projects where robustness and consistent performance are essential
- **CV-T – Telescopic Leader Mast**
Developed to enhance operational flexibility, simplifying transport, rig-up and adaptation to varying working heights. A dynamic solution for projects requiring rapid reconfiguration and versatile performance

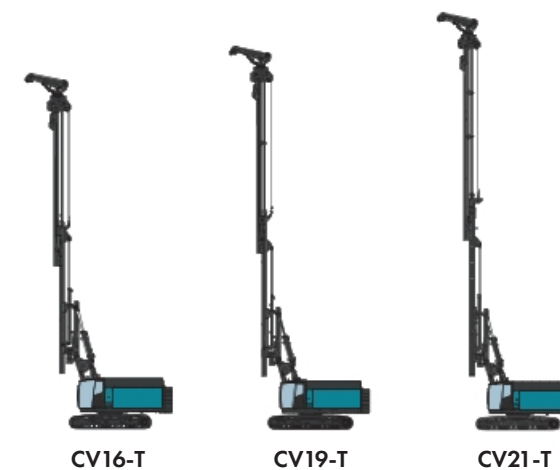
Both configurations integrate advanced Smart Power Management (SPM), Data Recording (CDR) and Fleet Master (CFM) connectivity systems, ensuring efficient power use, process monitoring and reduced downtime.

- **TRUE MULTI-TECHNOLOGY MACHINE**
One rig for sheet piling, CFA, soil mixing, cutter soil mixing and hydraulic hammer applications.
- **FIXED OR TELESCOPIC MAST CONFIGURATION**
Structural stability or maximum adaptability depending on project requirements.
- **FRONT-THE-WALL CAPABILITY $\pm 90^\circ$**
Efficient operation in confined and urban jobsites.
- **HEAVY-DUTY MODULAR MAST DESIGN**
Engineered to handle high loads with precise vertical control.
- **INTEGRATED DIGITAL CONTROL & CONNECTIVITY**
SPM, CDR and Fleet Master for efficiency, monitoring and reduced downtime.

EQUIPMENT RANGE

CV SERIES - MULTIFUNCTIONAL RIGS

TELESCOPIC LEADER MAST



FIXED LEADER MAST



TECHNICAL SPECIFICATIONS

CV SERIES - MULTIFUNCTIONAL RIGS

RATING PLATE - TELESCOPIC LEADER MAST

	MAX. PILE LENGTH	MAST TURNING ANGLE RH-LH	TORQUE	ENGINE POWER	WEIGHT
	m	°	kNm	kW	t
CV16-T	16	90° / 90°	100	563	70
CV19-T	19	90° / 90°	100	563	76
CV21-T	21	90° / 90°	150	563	80

ARRANGEMENTS - TELESCOPIC LEADER MAST

			CV16-T	CV19-T	CV21-T
SHEET PILING	Max. pile length	m	16	19	21
CFA	Max. depth	m	16	18,7	20,7
CASED CFA	Max. depth	m	16	18,7	20,7
HYDRAULIC HAMMER	Max. pile length	m	12	15	17
SOIL MIXING	Max. depth	m	15,9	18,6	20,6
CUTTER SOIL MIXING	Max. depth	m	15,9	18,6	20,6

RATING PLATE - FIXED LEADER MAST

	MAX. PILE LENGTH	MAST TURNING ANGLE RH-LH	TORQUE	ENGINE POWER	WEIGHT
	m	°	kNm	kW	t
CV18-F	18	90° / 90°	204	563	82
CV22-F	22	90° / 90°	204	563	84

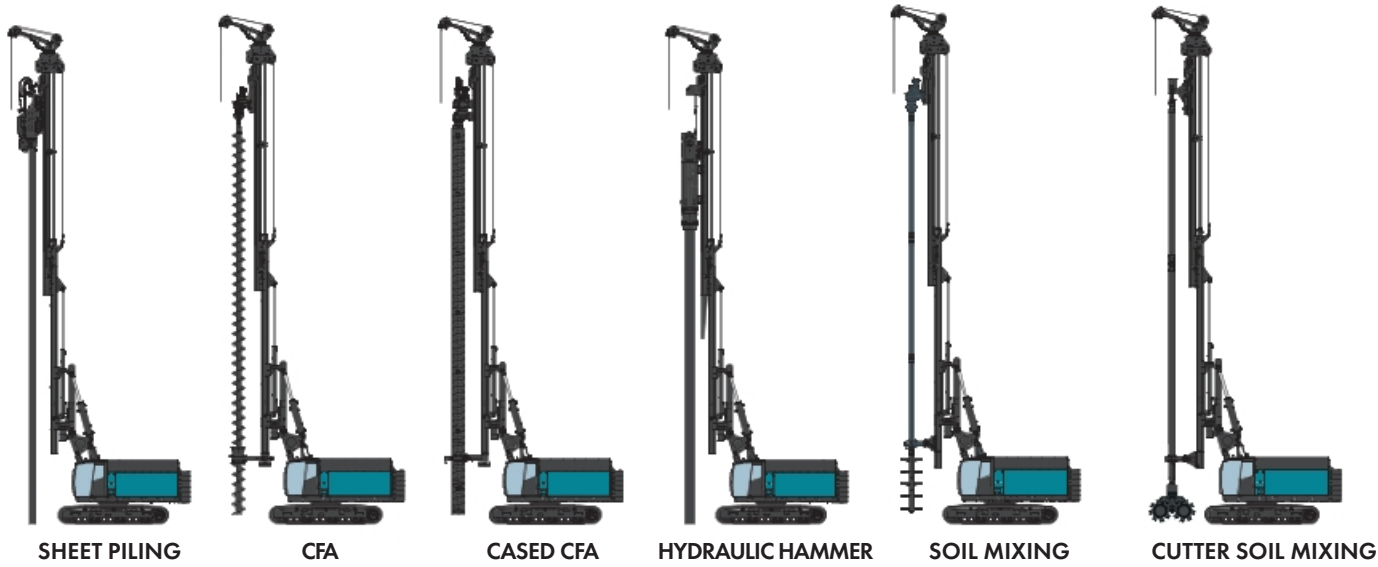
ARRANGEMENTS - FIXED LEADER MAST

			CV18-F	CV22-F
SHEET PILING	Max. pile length	m	18	22
BORED PILES	Max. depth	m	41,5	-
	Max. diameter uncased	mm	1400	-
CFA	Max. depth	m	23,2	27,4
CASED CFA	Max. depth	m	17,5	21,8
DISPLACEMENT PILES	Max. depth	m	23,2	27,4
HYDRAULIC HAMMER	Max. pile length	m	15,6	19,4
SOIL MIXING	Max. depth	m	17,2	21,4
CUTTER SOIL MIXING	Max. depth	m	17,9	21,8

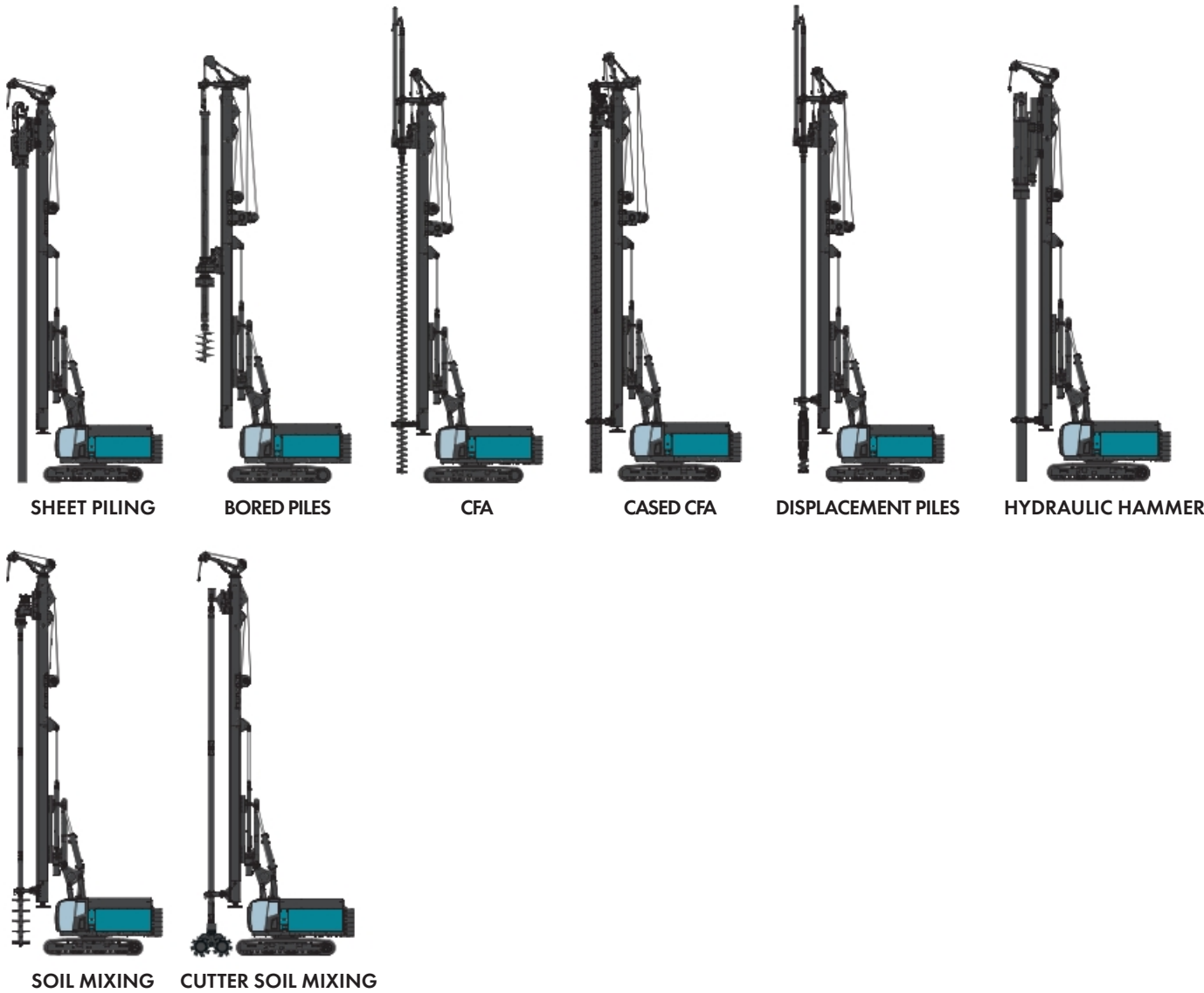
TECHNICAL SPECIFICATIONS

CV SERIES - MULTIFUNCTIONAL RIGS

ARRANGEMENTS - TELESCOPIC LEADER MAST



ARRANGEMENTS - FIXED LEADER MAST



DIAPHRAGM WALLS

Diaphragm walls represent one of the most reliable and widely adopted solutions for deep excavation support and underground structural works. Used in urban developments, transport infrastructure, basements and underground stations, they ensure structural stability, water tightness and long-term durability even in complex geotechnical conditions.

Casagrande diaphragm wall equipment is developed to provide precise excavation control, consistent panel geometry and optimized productivity. Through dedicated hydraulic grab systems and kelly-based configurations, contractors can select the most suitable excavation method according to soil type, required depth and project logistics.

Advanced monitoring systems, power management technologies and robust structural design ensure high verticality accuracy, operational continuity and reduced downtime — supporting contractors in meeting strict technical specifications and tight construction schedules.

FEATURES

HIGH STRUCTURAL ACCURACY

Precise control of panel geometry and verticality.

ADAPTABILITY TO SOIL CONDITIONS

Solutions for soft, medium and demanding ground.

OPTIMIZED EXCAVATION PRODUCTIVITY

Efficient grab systems and controlled winch operations.

URBAN JOBSITE CAPABILITY

Designed for confined and complex working environments

INTEGRATED MONITORING AND POWER MANAGEMENT

Enhanced control, reliability and operational efficiency.



TECHNOLOGIES

DIAPHRAGM WALLS

DESCRIPTION

Casagrande diaphragm wall technologies are based on different excavation concepts, allowing contractors to choose the most appropriate system according to soil type, panel depth and project complexity. Hydraulic grabs and kelly-based configurations ensure excavation accuracy, verticality control and reliable trench performance.

APPLICATIONS

	KRC	KHD
CB SERIES		
CB16	●	●
XP-2 SERIES		
B200 ^{XP-2}	●	●
B250 ^{XP-2}	●	●
B275 ^{XP-2}	●	●
B300 ^{XP-2}	●	●
B360 ^{XP-2}	●	●

● PRIMARY APPLICATION

○ AVAILABLE CONFIGURATION

● CUSTOM PROJECT CONFIGURATION

Application coverage refers to standard and recommended configurations. Additional setups may be available upon project analysis.





Casagrande diaphragm wall solutions are based on three distinct excavation technologies, enabling contractors to select the most suitable system according to soil conditions, required depth and productivity targets.

KHD System – Dedicated Hydraulic Grab Technology

A heavy-duty solution for deep trench excavation in demanding ground conditions. High closing force, synchronized winches and hydraulic slewing up to $\pm 180^\circ$ ensure power and precision, with verticality control accuracy up to 0.1%.

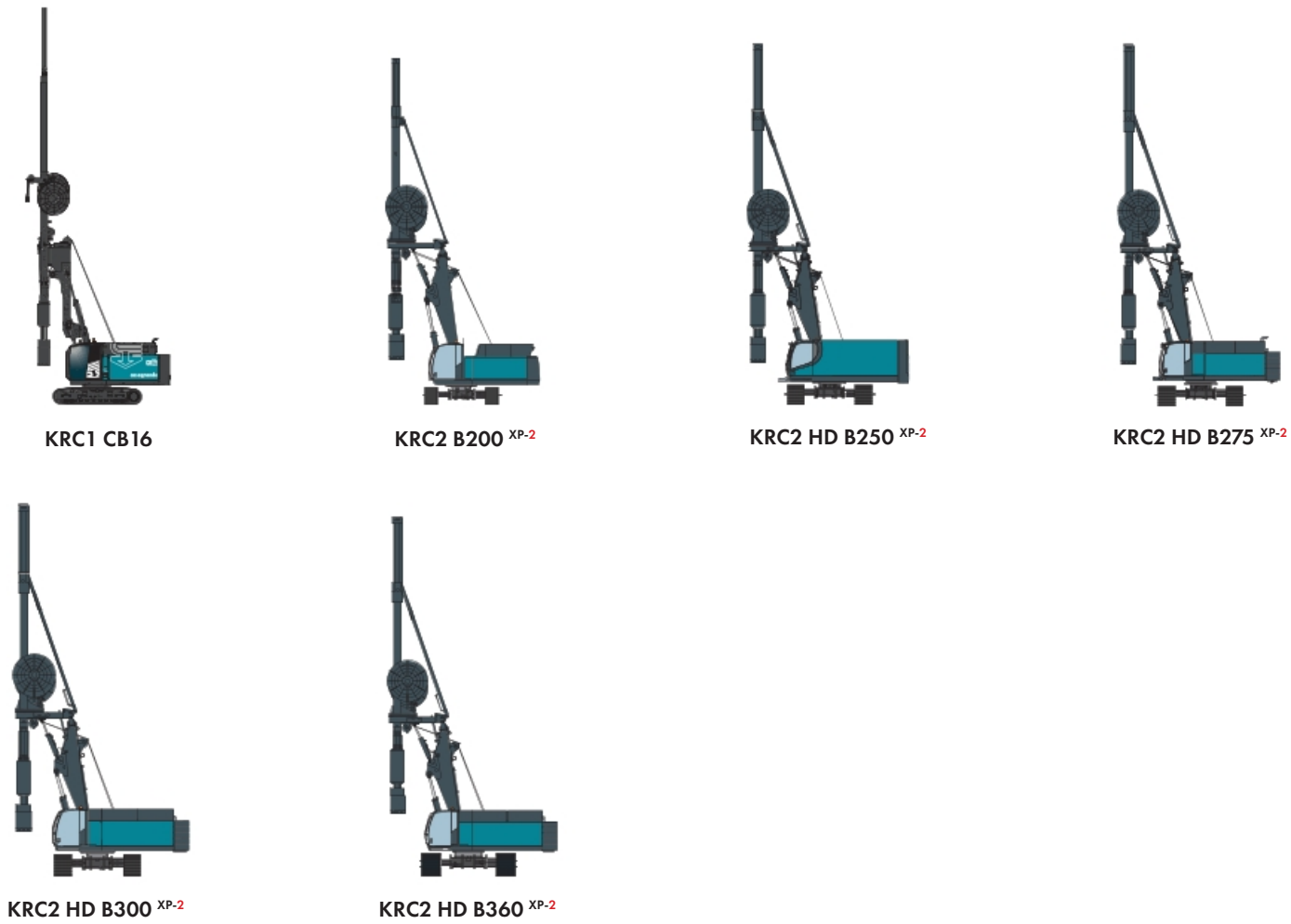
KRC Concept – Kelly + Hydraulic Grab Configuration

A kelly-based hydraulic grab solution designed for soft to medium soils. It offers high productivity, simplified mobilization and rotation capability up to $\pm 45^\circ$ or $\pm 90^\circ$. Available on XP-2 rigs and on the new-generation CB Series through the KRC 1 configuration.

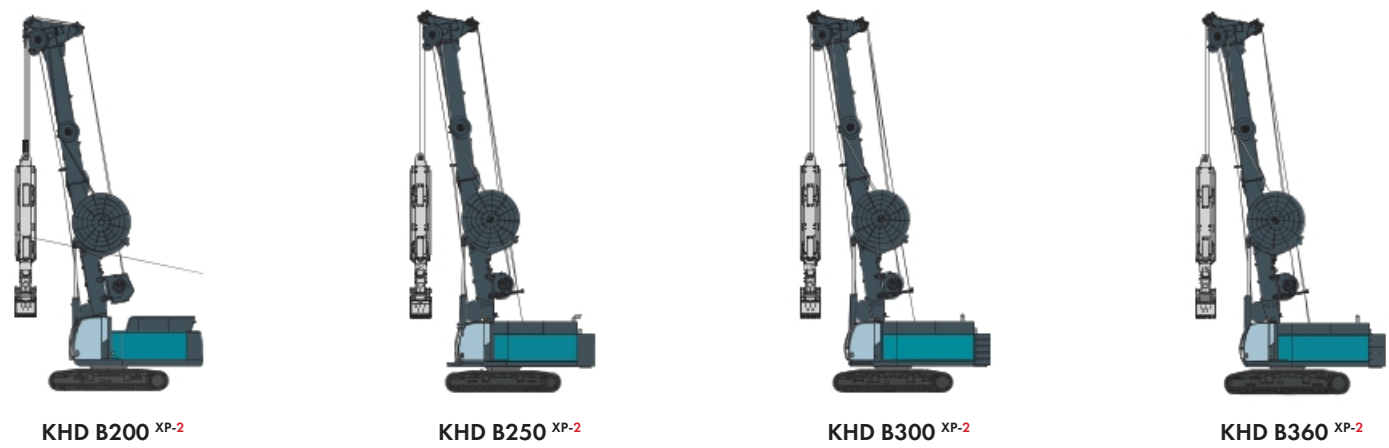
- **MULTIPLE CONFIGURATION OPTIONS**
KHD for heavy-duty trenching, KRC1/KRC2 for flexible configurations
- **HIGH EXCAVATION ACCURACY**
Verticality monitoring systems with precision up to 0.1%.
- **OPTIMIZED PRODUCTIVITY**
High closing force, synchronized winches and efficient excavation cycles.
- **CONFINED-SPACE CAPABILITY**
Hydraulic slewing systems designed for restricted urban environments.
- **INTEGRATED DIGITAL CONTROL & FLEET MANAGEMENT**
Smart Power Management, data recording and remote monitoring systems.

EQUIPMENT RANGE
CB & XP-2 SERIES - DIAPHRAGM WALLS

KRC - KELLY GUIDED GRABS



KHD - ROPE SUSPENDED HYDRAULIC GRABS



TECHNICAL SPECIFICATIONS

CB SERIES & XP-2 SERIES - DIAPHRAGM WALLS

RATING PLATE - KRC KELLY GUIDED GRABS

		KRC1 CB16	KRC2 B200	KRC2 HD B250	KRC2 HD B275	KRC2 HD B300	KRC2 HD B360
Max. depth	m	30	35	35	46	46	46
Max. diaphragm width	mm	600 ÷ 800	500 ÷ 1500	500 ÷ 1500	500 ÷ 1500	500 ÷ 1500	500 ÷ 1500
Max. diaphragm length	mm	2200 ÷ 2500	2200 ÷ 3000	2200 ÷ 3000	2200 ÷ 3000	2200 ÷ 3000	2200 ÷ 3000
Engine power	kW	209	246	336	336	472	472
Weight w/o grab	t	37	62	78	78	85	100

RATING PLATE - KHD ROPE SUSPENDED HYDRAULIC GRABS

		KHD22 B200	KHD25 B250	KHD28 B300	KHD28 B360
Max. depth	m	80	80	80	80
Max. diaphragm width	mm	420 ÷ 800	600 ÷ 1500	600 ÷ 1500	600 ÷ 1500
Max. diaphragm length	mm	2200 ÷ 2500	2200 ÷ 3200	2200 ÷ 3200	2200 ÷ 4000
Engine power	kW	246	336	472	472
Weight w/o grab	t	85	90	97	120

TECHNICAL SPECIFICATIONS

CB SERIES & XP-2 SERIES - DIAPHRAGM WALLS

KHD HYDRAULIC GRABS - MODELS & SPECIFICATIONS

		KHD22 (HYDRAULIC)	KHD25 (HYDRAULIC)	KHD28 (HYDRAULIC)	PM (MECHANICAL)
Max. diaphragm width	mm	420 ÷ 800	600 ÷ 1500	600 ÷ 1500	600 ÷ 1500
Max. diaphragm length	mm	2200 ÷ 2500	2500 ÷ 3000	2800 ÷ 4000	2500 ÷ 3200
Weight w/o grab	t	9 ÷ 16	12 ÷ 23	16 ÷ 30	10 ÷ 20

TUNNELLING

Casagrande drilling rigs for tunnelling applications are engineered to operate in confined environments, featuring dedicated kinematics and configurations designed to align precisely with the excavation face. They address the typical requirements of underground jobsites, including forepoling, radial rock bolting, invert consolidation, micropiles and jet grouting.

These machines are developed to ensure structural stability, accurate drilling parameter control and operational continuity even under demanding conditions. The dedicated articulation for tunnel works allows slewing and positioning up to 180°, enabling efficient operation on the crown, sidewalls and invert.

For large-scale and deep applications, configurations with extended mast length and single or double rotary heads are available, offering high extraction forces and a wide working area, suitable for complex infrastructure projects.

The result is a range of specialized machines that enable contractors to perform underground consolidation and support operations with efficiency, safety and precision.

FEATURES

DEDICATED TUNNEL KINEMATICS

Precise alignment to the excavation face with wide slewing capability.

APPLICATION VERSATILITY

Forepoling, rock bolting, invert works, micropiles and jet grouting.

HIGH STABILITY AND CONTROL

Heavy-duty undercarriage and real-time drilling parameter monitoring.

MODULAR CONFIGURATIONS

Variable mast lengths and single or double rotary head arrangements.

INTELLIGENT POWER MANAGEMENT

SPM systems, data recording (CDR) and remote monitoring for improved uptime and efficiency.



TECHNOLOGIES

TUNNELLING

DESCRIPTION

Tunnelling configurations are specifically developed to address underground construction requirements. Dedicated kinematics and equipment setups support forepoling, rock bolting, invert consolidation and jet grouting operations, ensuring precision alignment, operational safety and efficient execution in confined environments.

APPLICATIONS

	ROCK BOLTS	FOREPOLES
XP-2 SERIES	C3 ^{XP-2}	
	C5R ^{XP-2}	
	C6T ^{XP-2}	
	C7T ^{XP-2}	
PG	PG185	

PRIMARY APPLICATION

AVAILABLE CONFIGURATION

CUSTOM PROJECT CONFIGURATION

Application coverage refers to standard and recommended configurations. Additional setups may be available upon project analysis.



PG & XP-2 SERIES



Casagrande tunnelling solutions include dedicated XP-2 Series rigs and the PG Series, both engineered to ensure precision, stability and operational continuity in underground construction. Designed for confined environments, they integrate high-pressure hydraulic systems (up to 350 bar), electronic control of drilling parameters and articulated kinematics that allow accurate positioning on the crown, face and sidewalls.

The XP-2 Series offers advanced power management with a wide range of configurations, while the PG Series is specifically developed for tunnel applications, featuring a mast length up to 23 m and a usable stroke up to 18,000 mm, available with single or double rotary head arrangements. Diesel, electric or dual power options, together with radio controls and optional increased stabilizers, ensure adaptability, safety and productivity even in restricted underground jobsites.

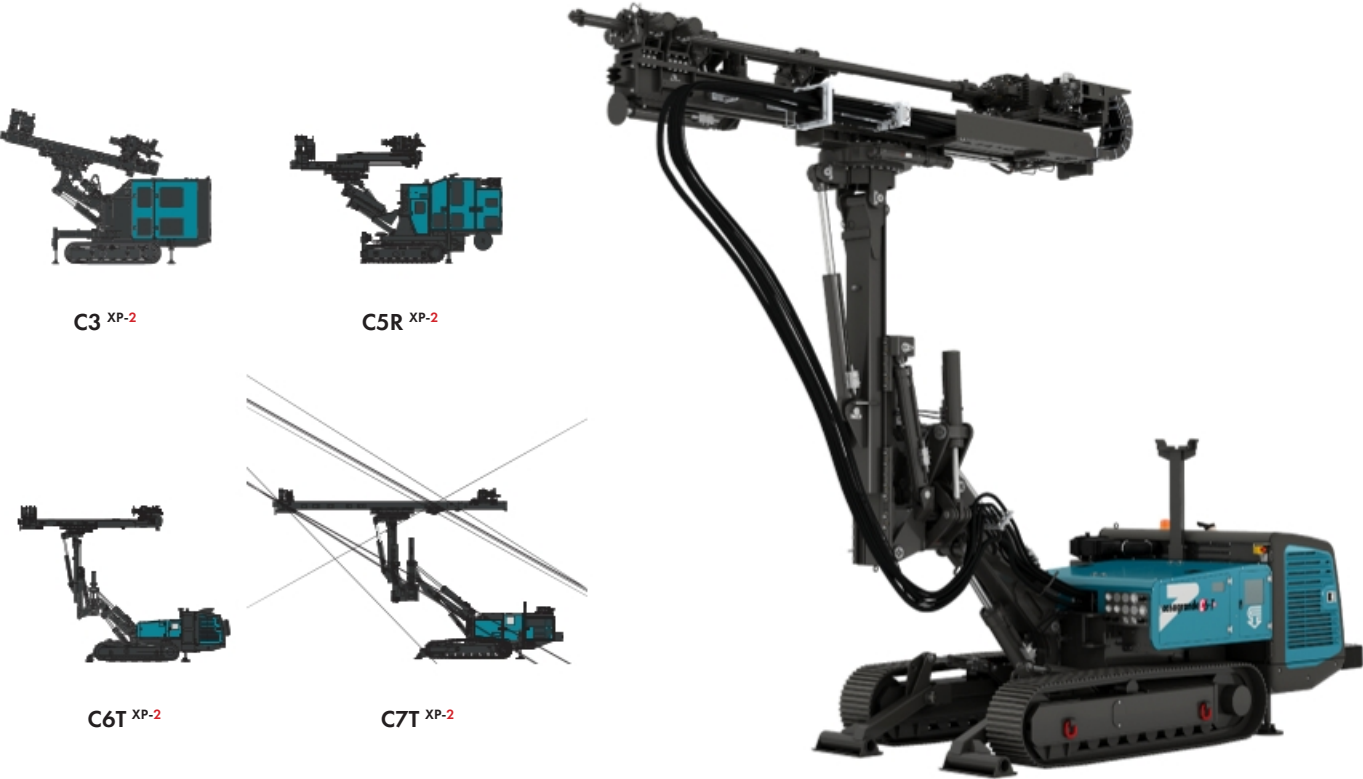
These machines provide contractors with reliable and versatile solutions for forepoling, rock bolting, micropiles and jet grouting operations.

- XP-2 SERIES AND PG SOLUTIONS**
 Dedicated machines for tunnel consolidation and ground support applications.
- HIGH-PERFORMANCE HYDRAULIC SYSTEM**
 Up to 350 bar for precise and consistent drilling control.
- SINGLE OR DOUBLE ROTARY HEAD CONFIGURATIONS**
 Flexible setups based on application needs.
- DIESEL, ELECTRIC OR DUAL POWER OPTIONS**
 Compliance with site and environmental requirements.
- STABLE OPERATION IN CONFINED SPACES**
 Robust undercarriage, optional increased stabilizers and radio control operation.

EQUIPMENT RANGE

PG & XP-2 SERIES - TUNNELLING

XP-2 SERIES



PG



TECHNICAL SPECIFICATIONS

PG & XP-2 SERIES - TUNNELLING

RATING PLATE - XP-2 SERIES



		C3	C5R	C6T	C7T
Height center of ring gears	mm	1060	1135	530 ÷ 2090	520 ÷ 3300
Radius of horizontal drilling	mm	1100 ÷ 1900	1350 ÷ 2340	2810 ÷ 3760	2700 ÷ 3500
Stroke single rotary head	mm	2000	2150	4000	7300
Weight	kg	6500	10000	17000	24000

RATING PLATE - PG SERIES

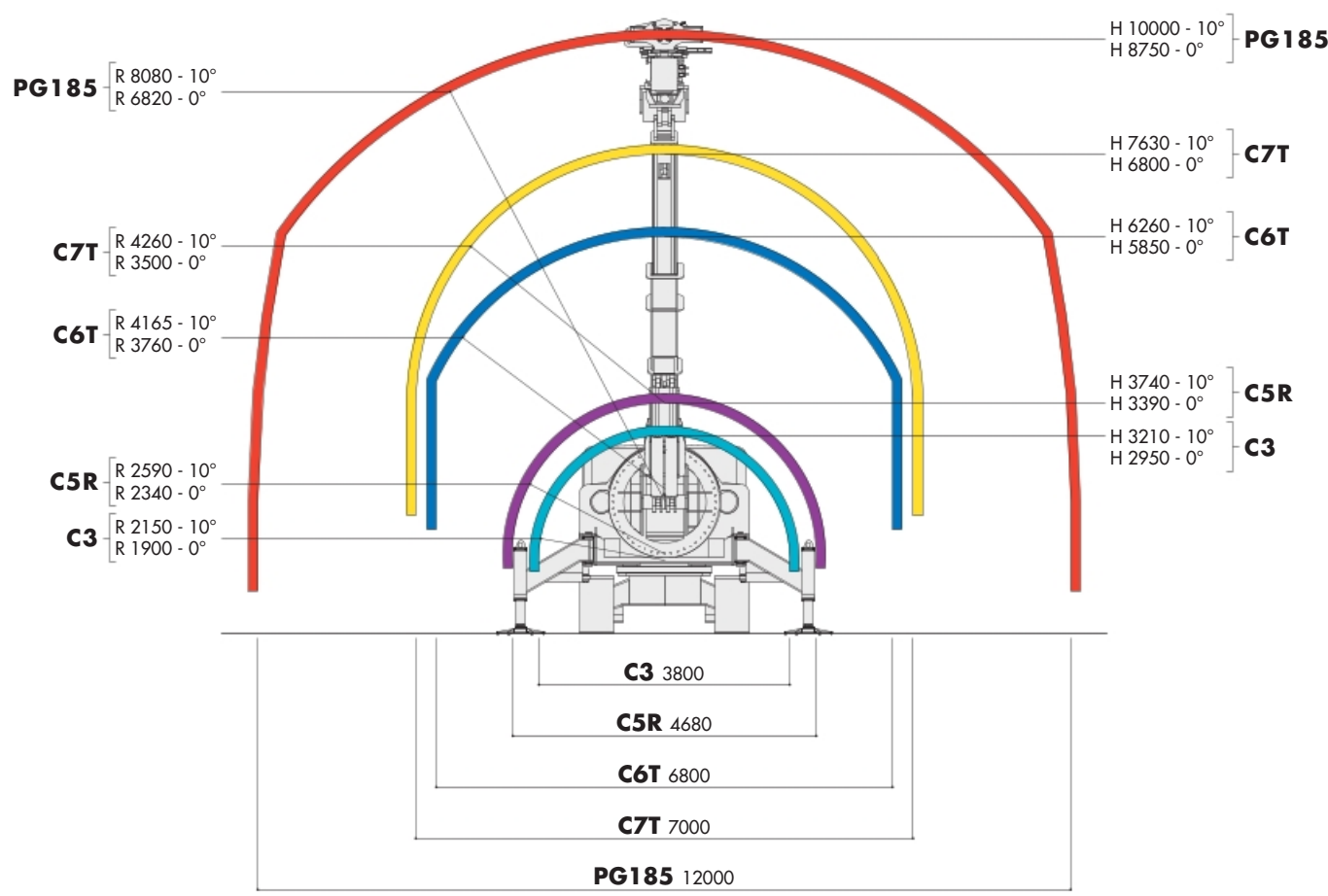


		PG185
Height center of ring gears	mm	1920
Radius of horizontal drilling	mm	2600 ÷ 6820
Stroke single rotary head	mm	18000
Weight	kg	45000

TECHNICAL SPECIFICATIONS

PG & XP-2 SERIES - TUNNELLING

OPERATIONAL RADIUS AND WORKING AREA



ACCESSORIES & TOOLS

Casagrande offers a comprehensive range of drilling tools and accessories designed to optimize performance across a wide variety of soil conditions and foundation techniques. These tools are engineered with advanced design and construction to ensure precision, efficiency and reliability even on the most challenging sites. The range includes buckets, augers, core barrels, casing systems and a full suite of special tools that can be tailored to project requirements and ground conditions.

Complementing this, Casagrande’s Jet Grouting equipment provides a high-performance system for soil improvement. By mixing the in-situ ground with a stabilizer under high pressure, this technology enhances soil strength and elasticity while reducing permeability, making it ideal for deep foundations, structural reinforcement and waterproofing applications.

Together, these accessories allow contractors to match the right tool and system to each application, improving productivity, reducing downtime and achieving consistent results on-site.

FEATURES

COMPREHENSIVE DRILLING TOOLS

Buckets, augers, core barrels and casing systems designed for diverse soil types.

CUSTOMIZABLE AND ADAPTABLE

Tools tailored to specific rig types, soil conditions and project needs.

ENHANCED DRILLING PRECISION

Engineered to deliver reliable performance and accurate hole creation.

HIGH-PRESSURE JET GROUTING SYSTEM

Soil improvement technology that increases strength and reduces permeability for structural and waterproofing needs.

OPTIMIZED PROJECT EFFICIENCY

Accessories that support productivity, reduce change-over time and improve on-site execution.

JET GROUTING EQUIPMENT

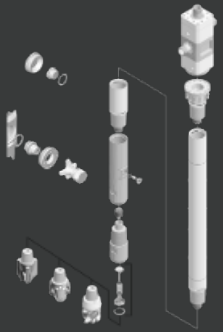
Our jet grouting equipment is engineered to ensure consistent soil treatment quality and precise control of every injection phase. Designed for high-pressure applications and demanding ground conditions, the system enables contractors to achieve reliable column geometry, optimized material consumption and predictable performance, enhancing both structural results and overall project efficiency.



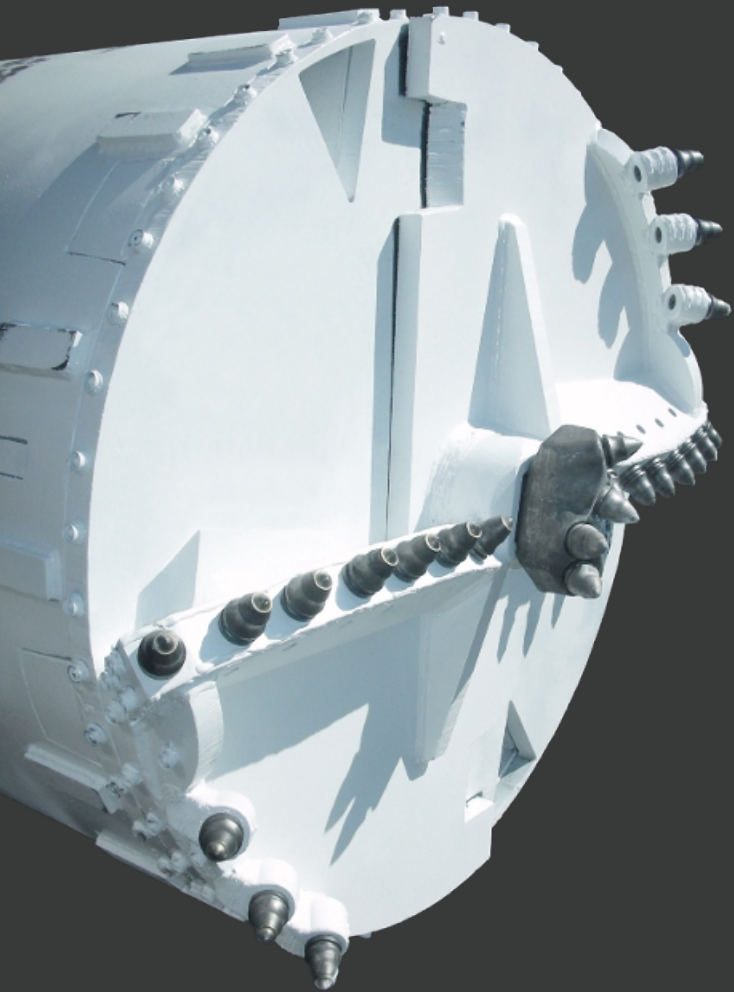
HIGH PRESSURE PUMPS



MIXING PLANT



DRILL STRING



DRILLING TOOLS

To unlock the full potential of our advanced hydraulic systems and translate machine power into real on-site performance, we have developed a complete and high-performance range of drilling tools and accessories designed to maximize productivity, precision and efficiency in every ground condition.

- BUCKETS
- AUGERS
- CORE BARRELS
- SPECIAL TOOLS
- FDP
- SPARE PARTS FOR TOOLS

AFTER SALES SERVICE



Casagrande After Sales Service is designed to ensure that every machine maintains high performance, reliability and operational continuity over time. Our support extends across the entire lifecycle of the equipment, providing direct access to dedicated service managers and highly trained technicians capable of performing maintenance and technical interventions worldwide.

The service includes genuine spare parts supply, tailored warranty extension programs and structured technical training for operators and service personnel. Advanced digital tools such as Casagrande Fleet Master enable real-time machine monitoring, supporting preventive maintenance planning and reducing unexpected downtime.

With a global network of agents and distributors, Casagrande guarantees responsive technical and logistical support, helping customers maximize uptime, protect their investment and maintain consistent jobsite productivity.

GLOBAL 24/7 SUPPORT

24/7 global assistance through Casagrande's international subsidiaries in India and the USA, ensuring fast response, operational continuity and reliable after-sales support.

GENUINE SPARE PARTS AVAILABILITY

Certified components to ensure reliability and performance.

CUSTOMIZED WARRANTY PROGRAMS

Flexible coverage options aligned with operational needs.

TECHNICAL TRAINING PROGRAMS

Continuous skill development for operators and technicians.

REMOTE MONITORING SOLUTIONS

Fleet Master system for data analysis and proactive service management.



TECHNICAL ASSISTANCE
TRAINING COURSES
REMOTE ASSISTANT SERVICE
SERVICE BOXES
OFFICIAL SPARE PARTS

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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