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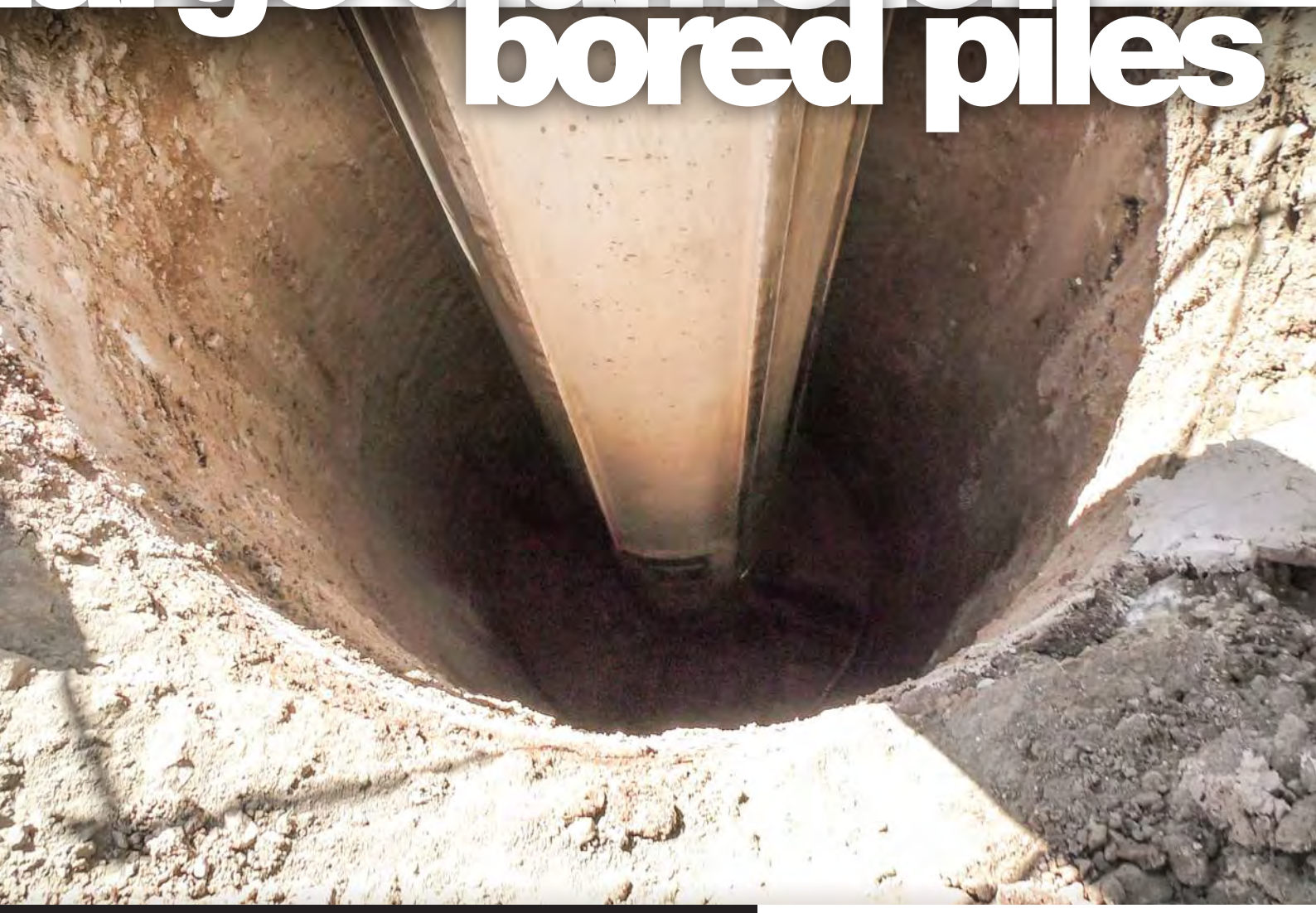
PEOPLE | KNOW HOW | PRODUCT

Your solution provider

LDP large diameter bored piles



The large diameter bored piles are foundation structure characterized by a cylindrical shape with a diameter larger than 600 mm; manufactured by excavating ground through a rotary drilling equipment with a complete soil removal and cast in place.

Drilling is performed by means of a tool *(short auger, bucket, core barrel)* connected to a telescopic Kelly bar moved by the rotary table.

Drilling depth
120 m and even more

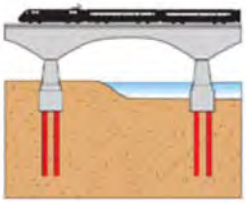
Drilling diameter
up to 4000 mm

Suitable
for all soils and rocks

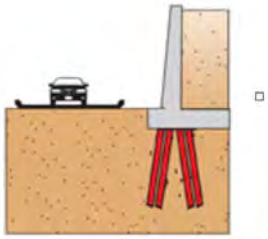
Technology and fields of application

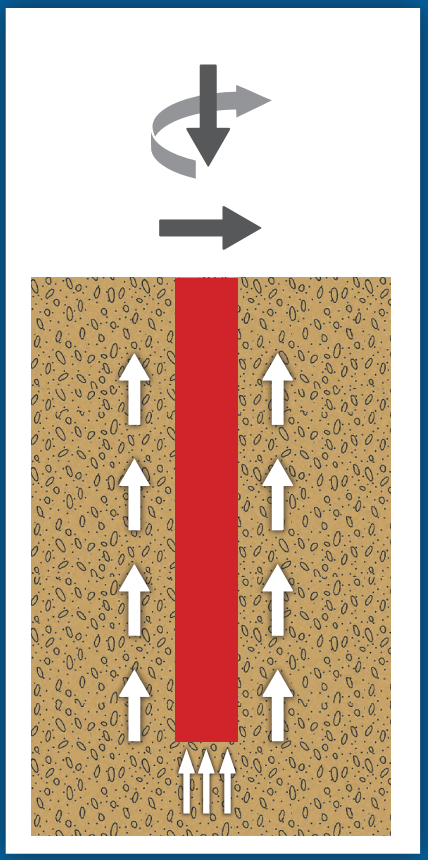
Single piles

Group of piles



Inclined piles





Vertical Load

Bending moment

Shear stress

Lateral bearing capacity

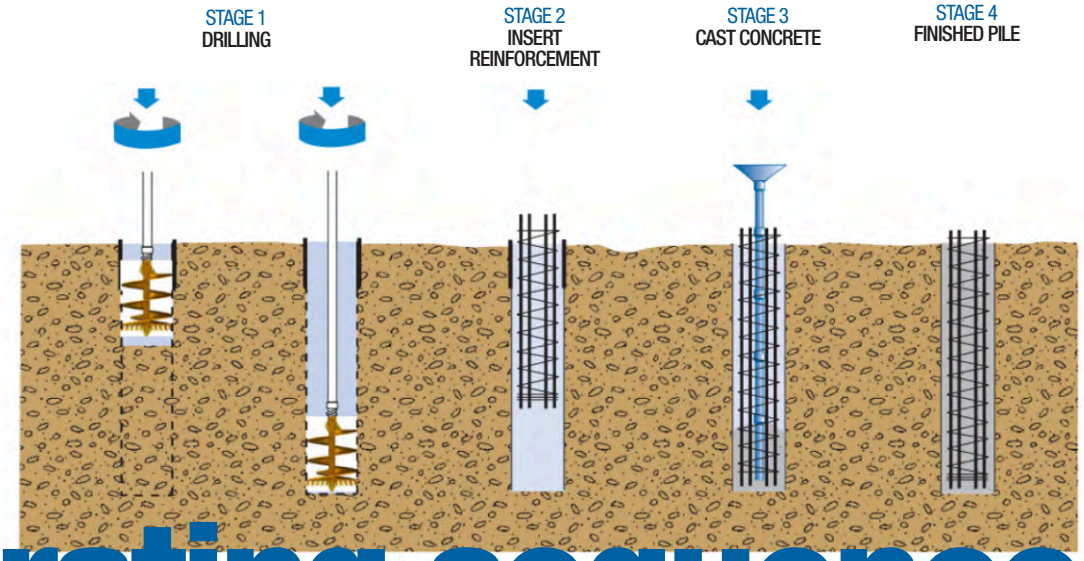
End bearing capacity

It transfers part of the vertical load by friction along its lateral surface, as well as onto the plane where the pile base rests on.

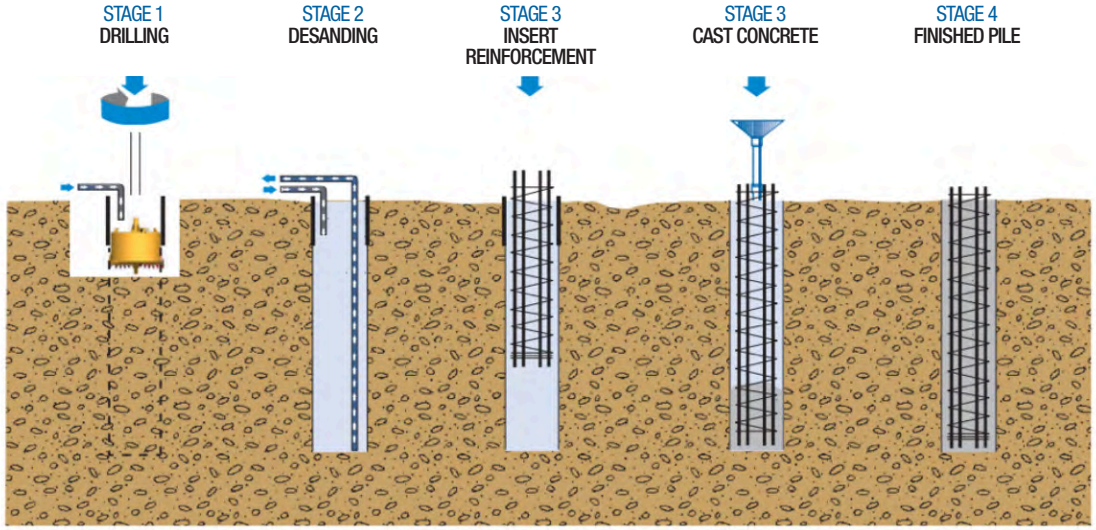
Pile bearing capacity is a function of soil nature and execution method. Vertical Pile bearing capacity is a function of concrete strength and pile diameter.

LDP operating sequence

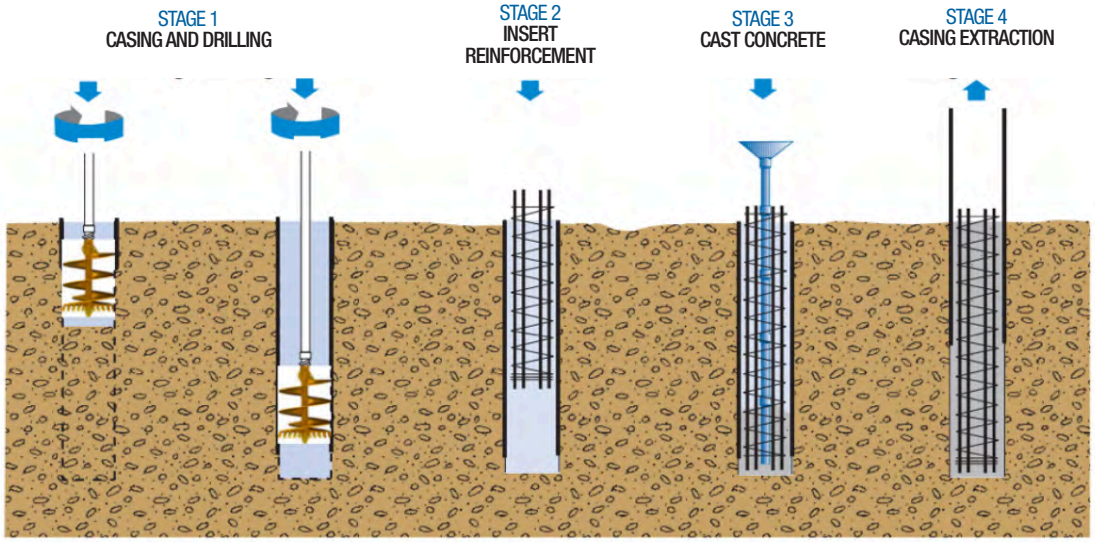
Dry pile construction | Where the soil is stable, stabilization operations can be avoided.

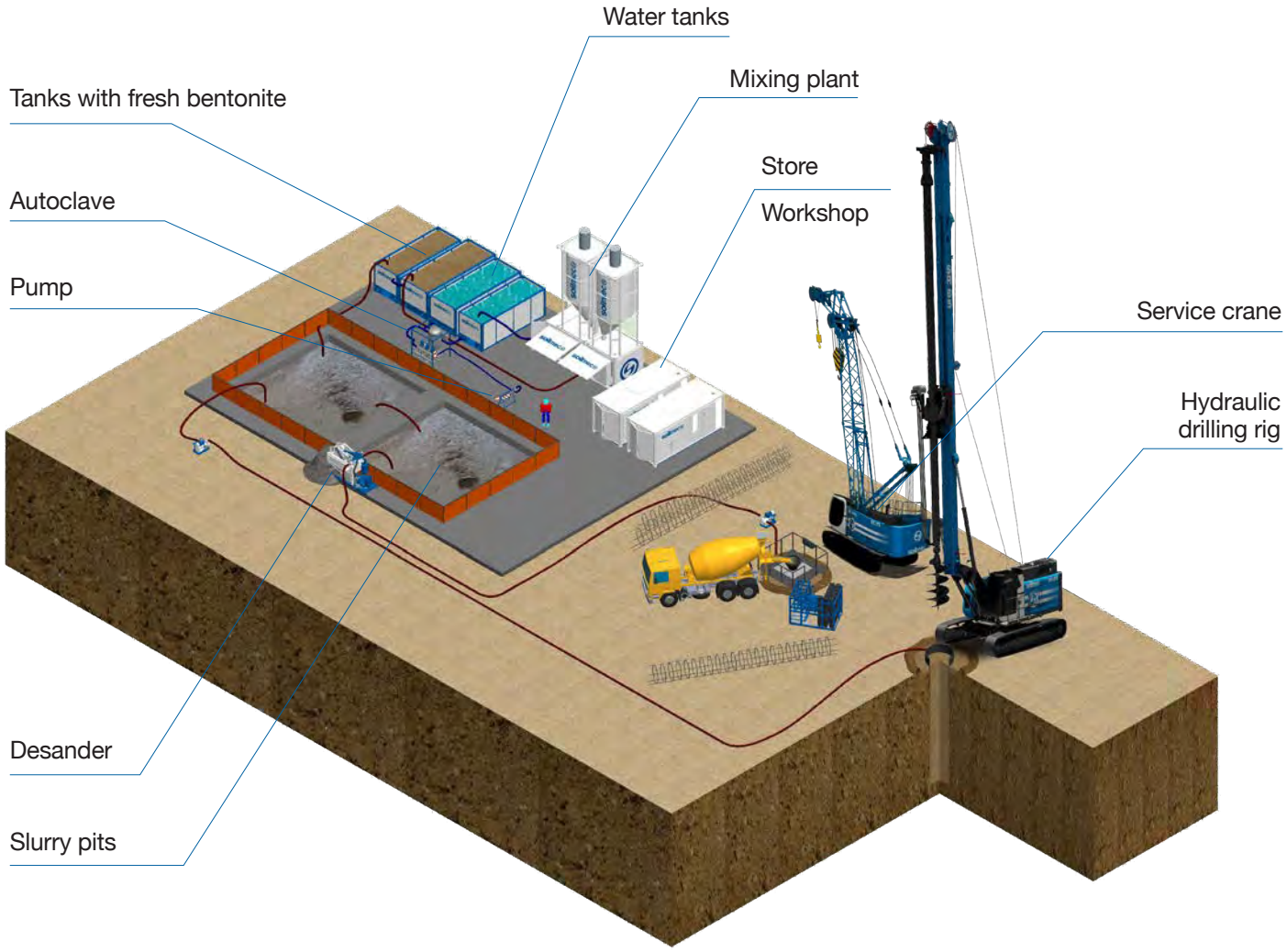


Wet pile construction | Drilling mud *(bentonite and polymer mud)* is used to fill the borehole while drilling and prevents the borehole walls from collapsing.



Cased pile construction | To drill the borehole, casings are used to maintain open the borehole.



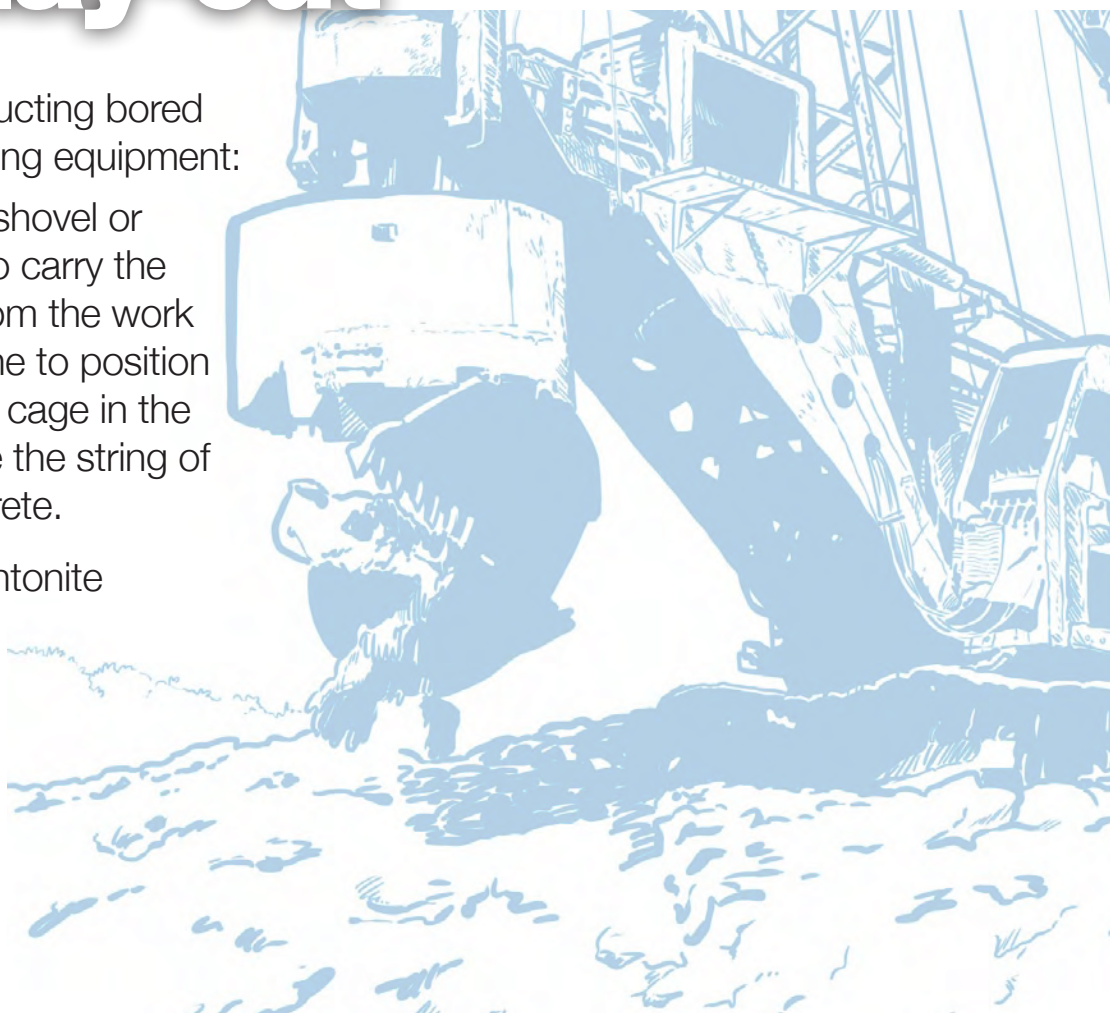


job site lay-out

A typical jobsite constructing bored piles will use the following equipment:

Hydraulic drilling rig; a shovel or a backhoe excavator to carry the excavated soil away from the work area and a service crane to position the steel reinforcement cage in the borehole and to handle the string of pipes to cast the concrete.

When working with bentonite or slurry add a plant to produce the slurry and a plant to desand the slurry.



performance

Drilling rig performance

	SR-30 Eagle	SR-35	SR-45	SR-65
	BL/FR **40.2 / 32.4 m**	BL/FR **56.7 / 63.4 m**	BL/FR **51.7/65 m**	BL/FR **62.5/77 m**
	1500/3000 mm	**1500/3000 mm**	**1500/3000 mm**	**2000/3000 mm**
	149 kW	**179 kW**	**209 kW**	**283 kW**
	131 kNm	**151.5 kNm**	**185 kNm**	**258.5 kNm**

	SR-75	SR-95	SR-125	SR-145
	BL/FR **62/78 m**	BL/FR **81.4/101.7 m**	BL/FR **115/138.2m**	BL/FR **115/138.2 m**
	2000/2800 mm	**3000/3500 mm**	**3500/4000 mm**	**3000/3500 mm**
	345 kW	**455 kW**	**470 kW**	**470 kW**
	293 kNm	**362.4 kNm**	**496 kNm**	**435 kNm**

2018

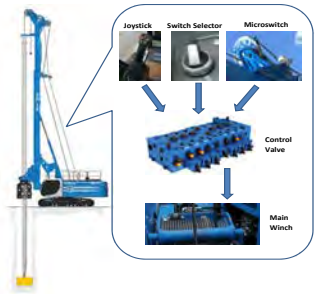
SM125 - Device for drilling axis variation.

The device ensures an easy and fast drilling axis variation without the use of spacers and eliminating the need for a support crane. It allows to easily reach the maximum geometric clearance in front of the mast when needed.

2017

SM122 - Locking kelly bar visualization system.

Real time display of locking connection area to simplify the operator job, reducing maneuver times and to protect the rig against wearing and tearing.



2016

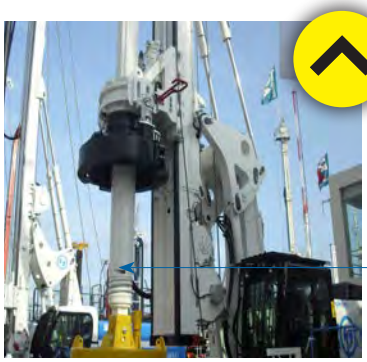
SM119 - Anti-slack system for kelly rope.

The main winch rope anti-slack system indicates when to slow down the kelly bar descent to avoid collision with the hole bottom and excessive rope unwinding for longer rope operation life.

2012

SM104 - Kelly winch synchronized with the mast lifting movement.

Automatic tensioning of main and service winch ropes during mast raising and boom adjustment to ease the operations during drilling/transport/ maintenance phases



2011

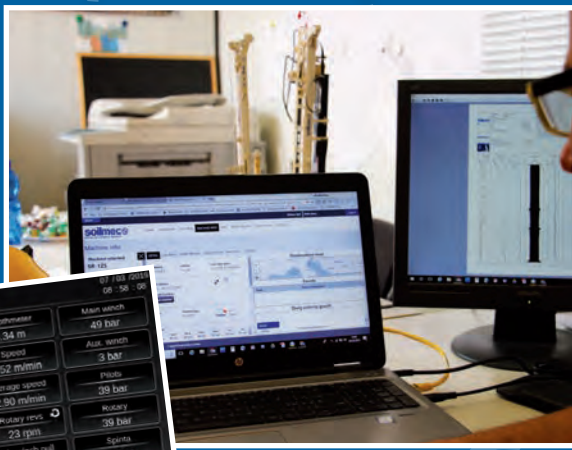
SM090 - Independent circuit for casing locking device.

The device allows a quick coupling of casing segments working with segmental bored piles managing the connections directly by the operator on cab.

patent controls

DMS suite for LDP

- Improved drilling efficiency with controlled accuracy
- Drilling assistance systems for operator support
- Job planning and progress tracking in real time
- Reporting, data analytics and quality assessment
- Condition monitoring and maintenance management software
- Worldwide remote assistance



Rig in action

Cardiff, California *United States*
North Coast Highway widening project

Panama *Panama*
Metro Line 3 - Station 4 (TreviGroup)

174 Piles
Ø 1500 mm
87 m depth

Pakubuwono Menteng, Jakarta *Indonesia*

Rig in action

84 Piles on water
Ø 1800 mm

Civitavecchia *Italy*
New ferry dock at the port of Civitavecchia

Ø 1500 mm
45 m depth

Cairo *Egypt*
Al-Waraaq jobsite, bridge of III° Ring Road of Cairo

3 Piles/day
Ø 1200 mm
22,5 m depth
fully cased by rotary

Chomutov *Czech Republic*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