

# EK90



multi-purpose drilling rig



# DRILLING EQUIPMENT

## EK90

GEAX EK90 is a multi-purpose drilling machine designed to reach the highest grade of versatility, ease of use, easy transportation, working speed and low maintenance. It can work with different drilling methods as Kelly drilling, CFA drilling and Diaphragm walls. Since most of parts are in common, the conversion from one the other configurations is very simple and fast. GEAX EK90 outstanding working performances are comparable to bigger size machines. Its central weight balance permits to reach a very high manoeuvrability in working places and ensures fast and safe movements. Its compactness and contained weight allows easy transportation without any special permits required. The Hitachi Zaxis 160 LC-3 base excavator, under GEAX specifications, ensures high reliability, excellent maintenance service and a cabin comfort unknown to the other home-made machines.



GEAX EK90 (as all the other GEAX machines) is characterized by an articulation architecture similar to a normal excavator, with a long boom in which is attached the mast. This permits a wide range of mast positioning and independent movements for the vertical alignment. Rope paths do not depend on the position of the mast since winches are fixed on it. This architecture, compared with that (usually parallelogram) of other machines, ensures:

- better rigidity and lightness
- more precise movements
- saving initial set-up time
- wider range of tool positioning
- simpler maintenance
- greater visibility of the work area

All these innovative features will enable an exceptional versatility, performances, maneuverability, reliability, safety and ease of use.

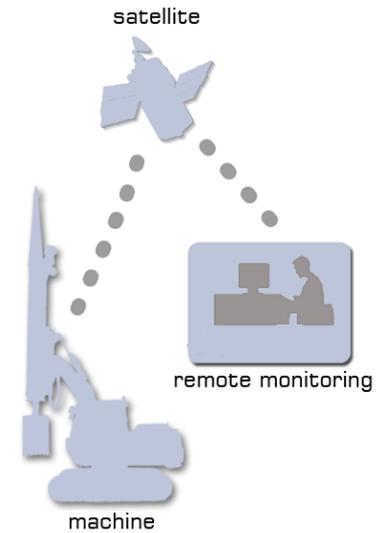
**MULTI-PURPOSE DRILLING RIG**

**EK90**

The machine is equipped with an electronic system which displays and controls several working parameters and functions.

- automatic vertical alignment of mast
- rig inclination display
- depth measuring device
- pressure gauge for an auxiliary input

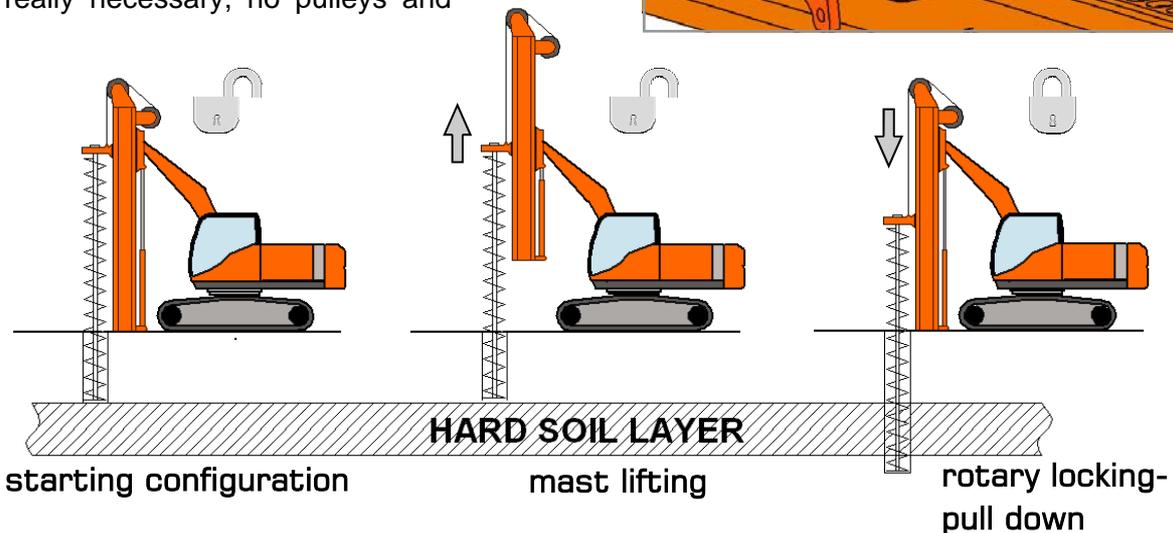
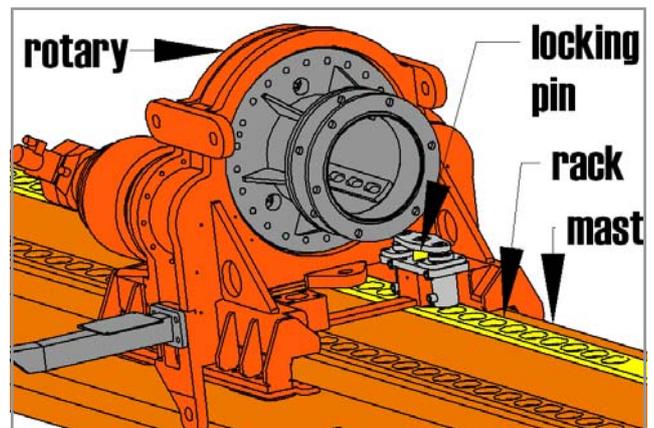
Moreover the machine is equipped with a GPS control system for remote monitoring of position and operating parameters. With the LCD colour monitor the operator can check maintenance intervals of the base, monitor fuel consumption, connect to the rear view camera.



**BPS** patented crowd system for CFA piles

BPS is the new patented crowd system for CFA piles. It's very useful when a hard soil layer which slows the process occurs. It provides a mechanical locking system between the rotary table and the mast which would create a pull-down force of the CFA auger. This pull-down force is operated by vertical movement devices of the mast and it is operative for the entire length of the mast.

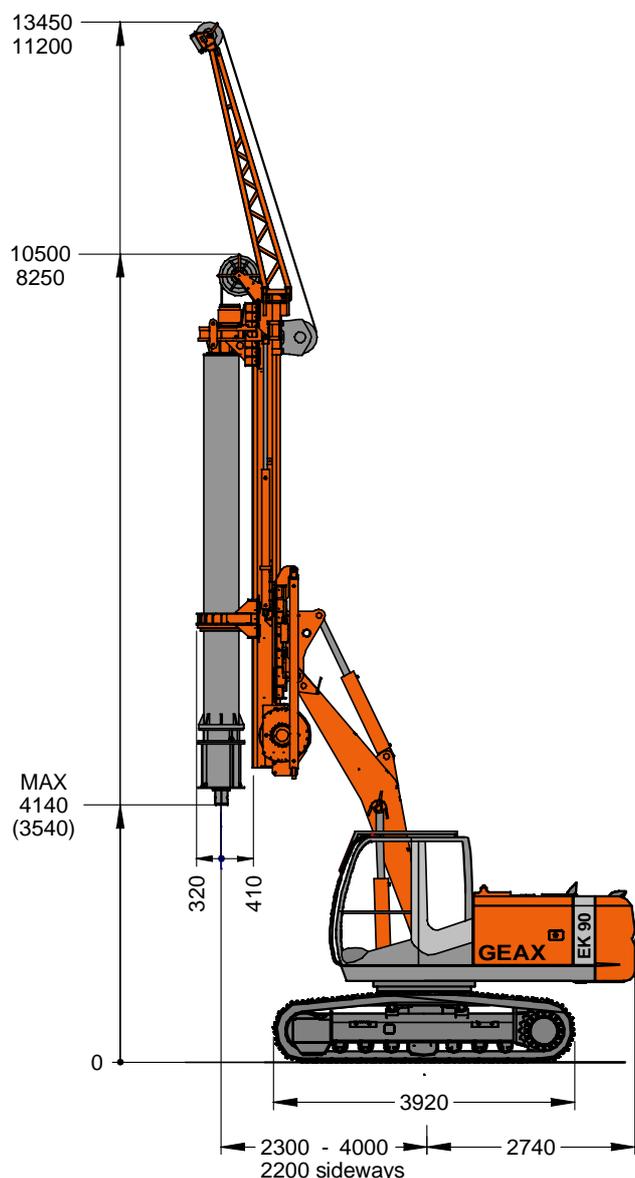
This pull-down system is activated only when really necessary, no pulleys and ropes.



**MULTI-PURPOSE DRILLING RIG**

**EK90P**

**Kelly Drilling**



**Base Hitachi Zaxis 160 LC-3**

Engine	type	240
Engine power	kw/hp	90/121
Undercarriage length	mm	3920
Undercarriage width	mm	2490
Shoe width	mm	500

**Hydraulic system**

Main pumps	l/min	2x191
Auxiliary pump	l/min	33.6
Hydraulic pressure	bar	320

**Rotary**

Nominal torque	kNm	82
Max torque with overboost	kNm	90
Drilling speed	rpm	6 ÷ 36

**Winches**

Main winch line pull	kN	120
Main winch rope diameter	mm	22
Auxiliary winch line pull	kN	37
Aux. winch rope diameter	mm	14

**Crowd system**

Pull down force	kN	100
Extraction force	kN	180
Stroke	mm	3850

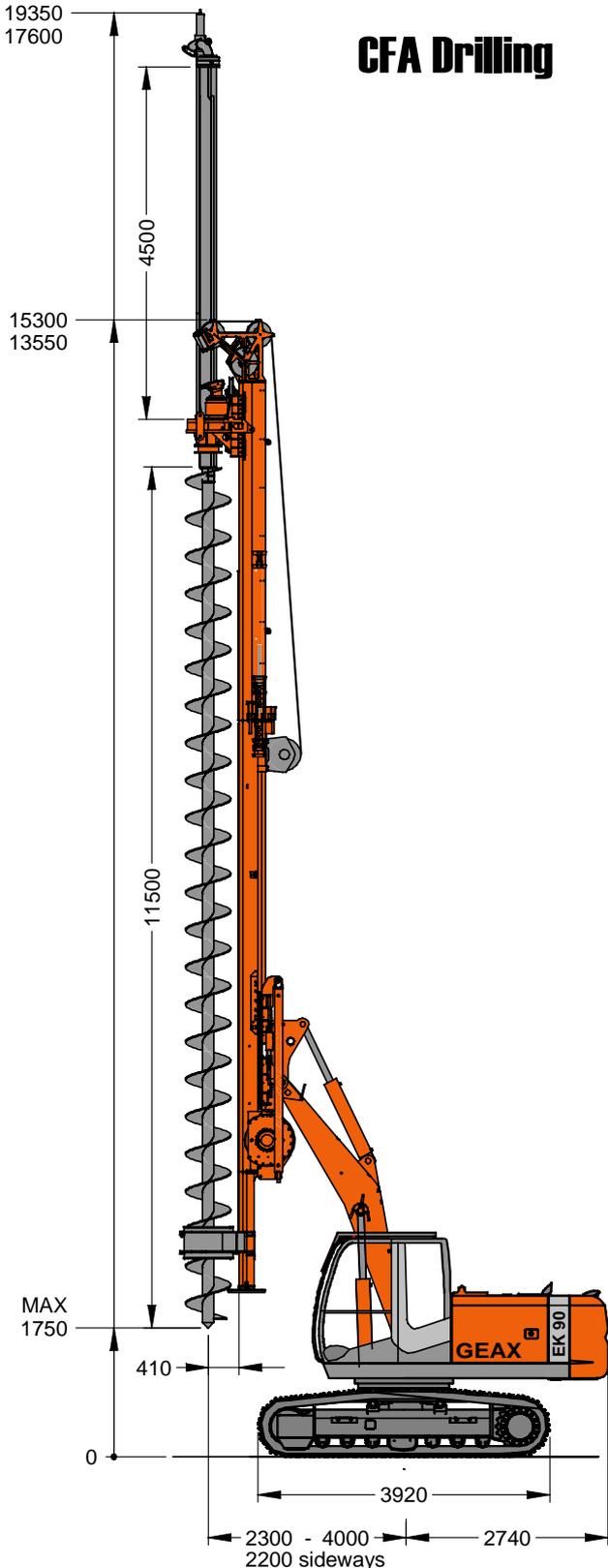
**Excavation**

Max pile diameter	mm	1500
Max pile depth	m	31

**MULTI-PURPOSE DRILLING RIG**

**EK90CFA**

**CFA Drilling**

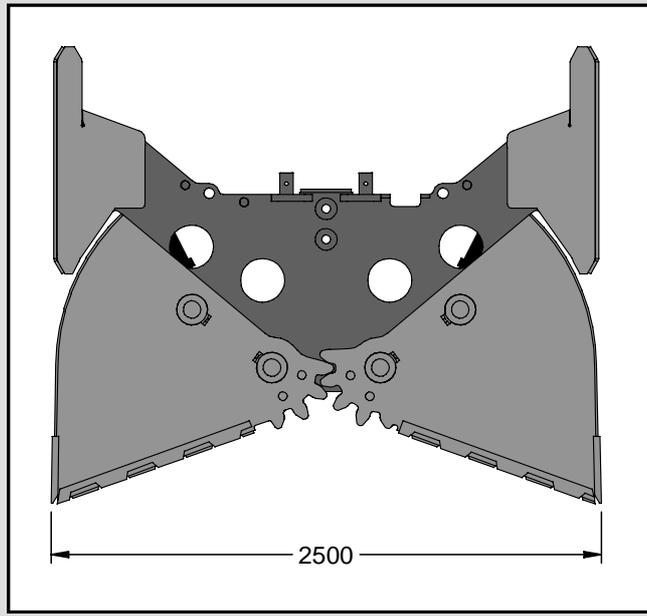
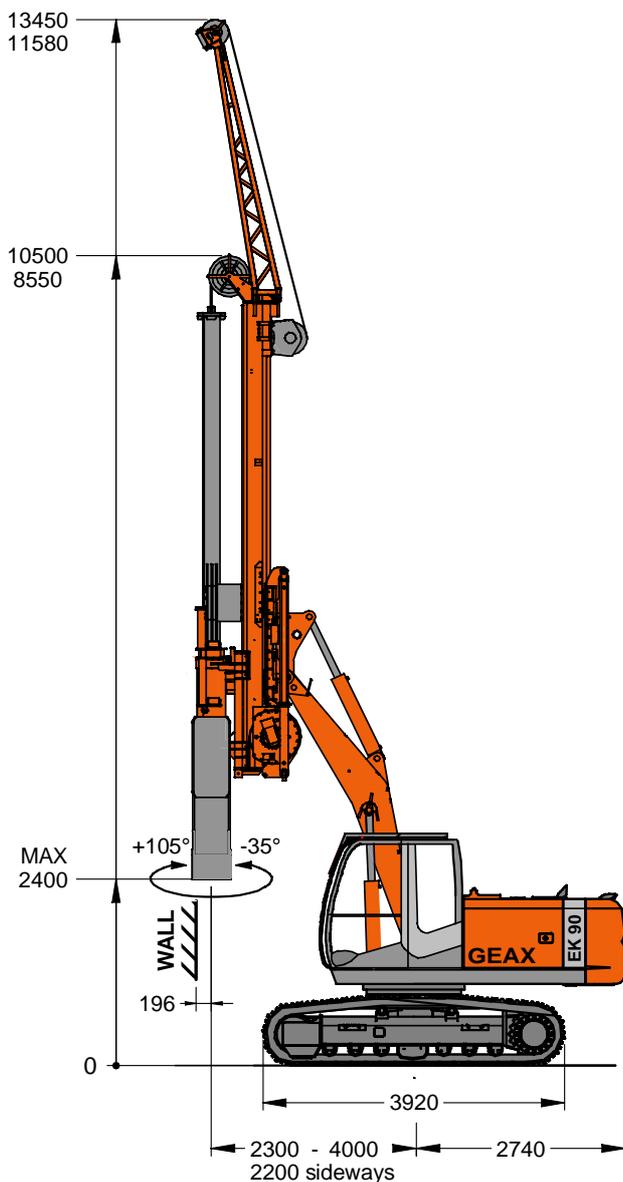


Rotary		
Nominal torque	kNm	82
Max torque with overboost	kNm	90
Drilling speed	rpm	6 ÷ 36
Winches		
Main winch line pull	kN	120x2
Main winch rope diameter	mm	20
Auxiliary winch line pull	kN	37
Aux. winch rope diameter	mm	14
Crowd system (patented)		
Pull down force	kN	100
Extraction force	kN	180
Stroke	mm	13000
Excavation		
Max pile diameter	mm	750
Max pile depth	m	16

**MULTI-PURPOSE DRILLING RIG**

**EK90D**

**Diaphragm Walls**

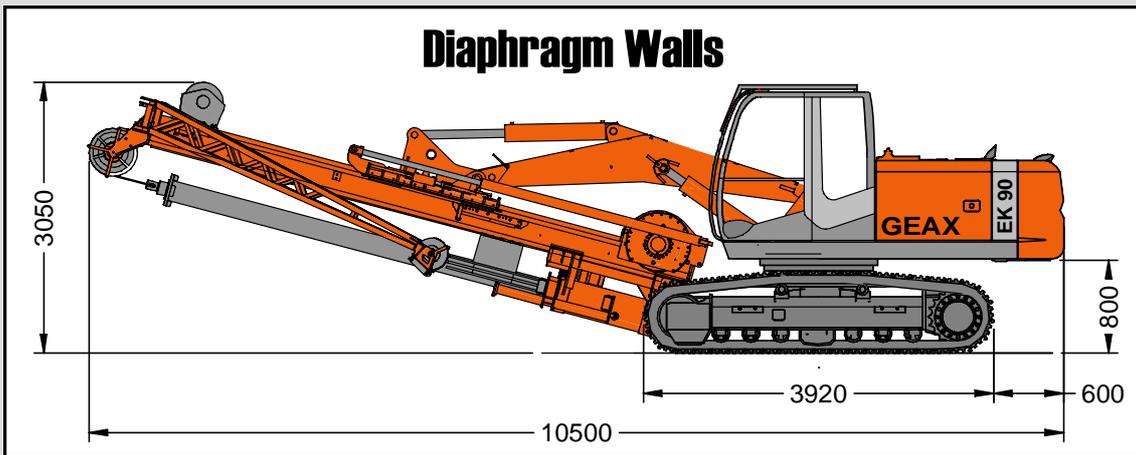
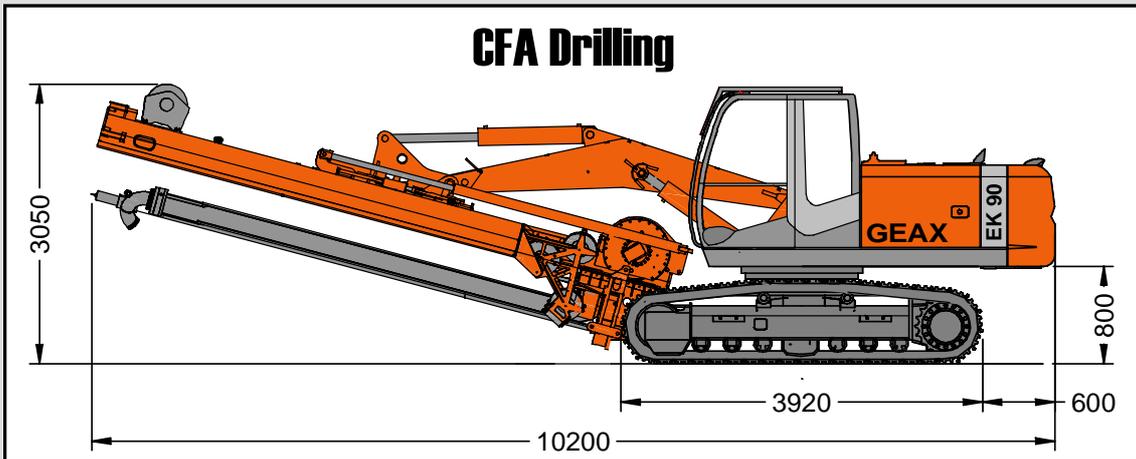
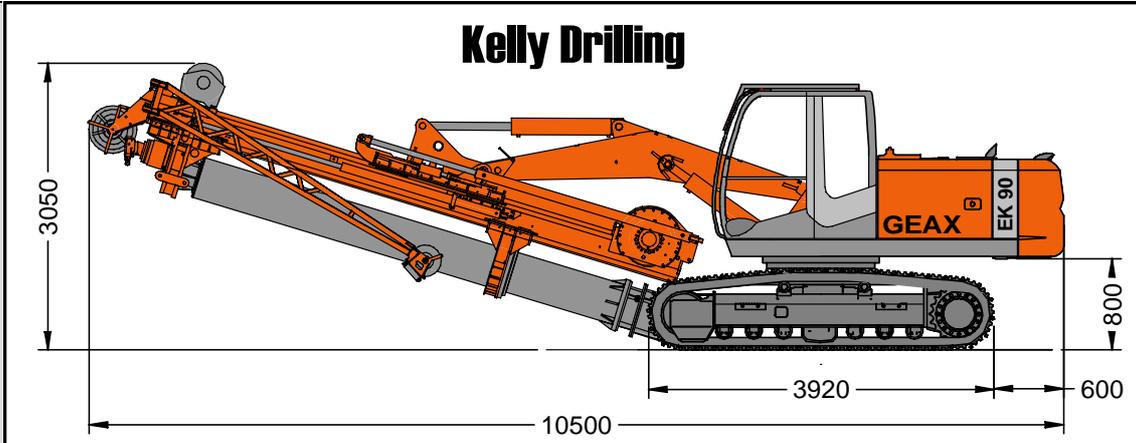


Winches		
Main winch line pull	kN	120
Main winch rope diameter	mm	22
Auxiliary winch line pull	kN	37
Aux. winch rope diameter	mm	14
Excavation		
Max wall depth	m	16
Width of trench	mm	300/ 600
Length of trench	mm	2500
Grabs closing force	kN	200
Kelly rotation	deg	+105°/ -35°

**MULTI-PURPOSE DRILLING RIG**

**EK90**

**TRANSPORT CONDITION**



Transport		EK90P	EK90CFA	EK90D
Length	mm	10500	10200	10500
Width	mm	2490	2490	2490
Height	mm	3050	3050	3050
Operating weight	kg	26000	24000	26000
Ground pressure	kg/cm <sup>2</sup>	0.83	0.77	0.83

**MULTI-PURPOSE DRILLING RIG**



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