



EK 90

MULTI-PURPOSE PILING RIG



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The GEAX EK90 is a multi-purpose piling rig designed to achieve the highest levels of versatility, manoeuvrability, ease of use, transportation, production and reliability. It is configured to operate in various different piling modes. For each drilling mode a special kit is designed to optimize the performances. However, the modularity of the components makes the conversion among the different kits extremely easy, fast and low-cost.

The GEAX EK90's outstanding production capability is comparable to machines of a much larger size. Its excellent stability allows easy manoeuvrability on job sites and ensures fast and safe operating movements. Its compactness and low weight allows easy transportation without special permits. The Hitachi Zaxis 160 or JCB JS160 base carrier, constructed to GEAX specifications, ensures excellent reliability and maintenance with operator cabin comfort not available on proprietary machines. The GEAX EK90 (in common with other GEAX machines) has an articulation structure similar to a

normal excavator with a long boom supporting the mast. This allows a wide range of mast positioning and independent adjustment of the vertical position of the mast. Wire rope positions are not dependent on the position of the mast as the winches are mounted on the mast itself. This design, compared to other machines, usually with parallelogram type mast supports, ensures the following:

- Excellent rigidity and lightness
- More precise movements
- Fast setup time
- Wide range of tool positioning
- Simpler maintenance
- Better visibility for the operator

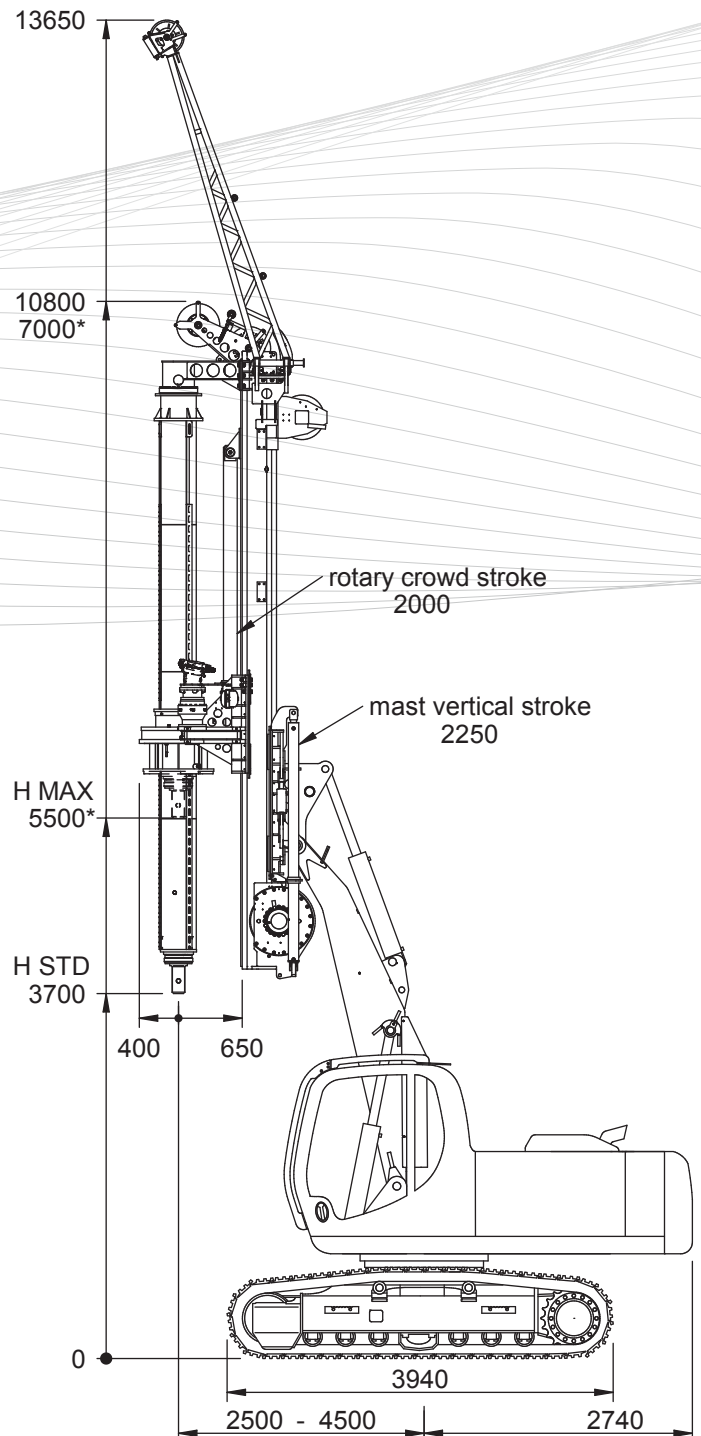
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LARGE DIAMETER PILES

Pull down force	100 kN - 22.480 lbf
Extraction force	180 kN - 40.470 lbf
Mast vertical stroke	2.250 mm - 7.4 ft
Total rotary stroke	4.250 mm - 14 ft
Max pile diameter	1.500 mm - 60 in
Max pile depth	up to 31 m - 101.70 ft
Min working height	7000* mm - 23 ft
Weight (w/o tool)	26.000 kg - 57.300 lb

KELLY BAR OPTIONS	Depth	H
5 x 5.4m Standard	25 m	3700 mm
6 x 3.6m *	20 m	5500 mm
6 x 5.4m	31 m	3700 mm

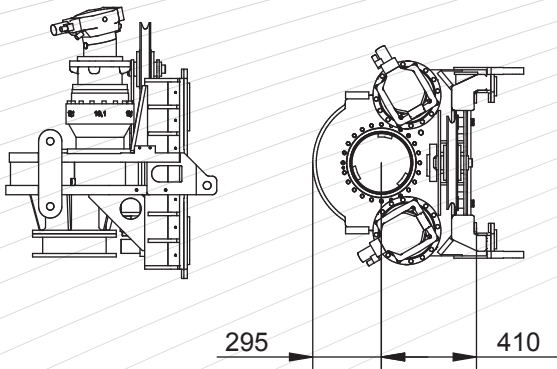
All the kelly bars are round interlocking
Custom measures available upon request



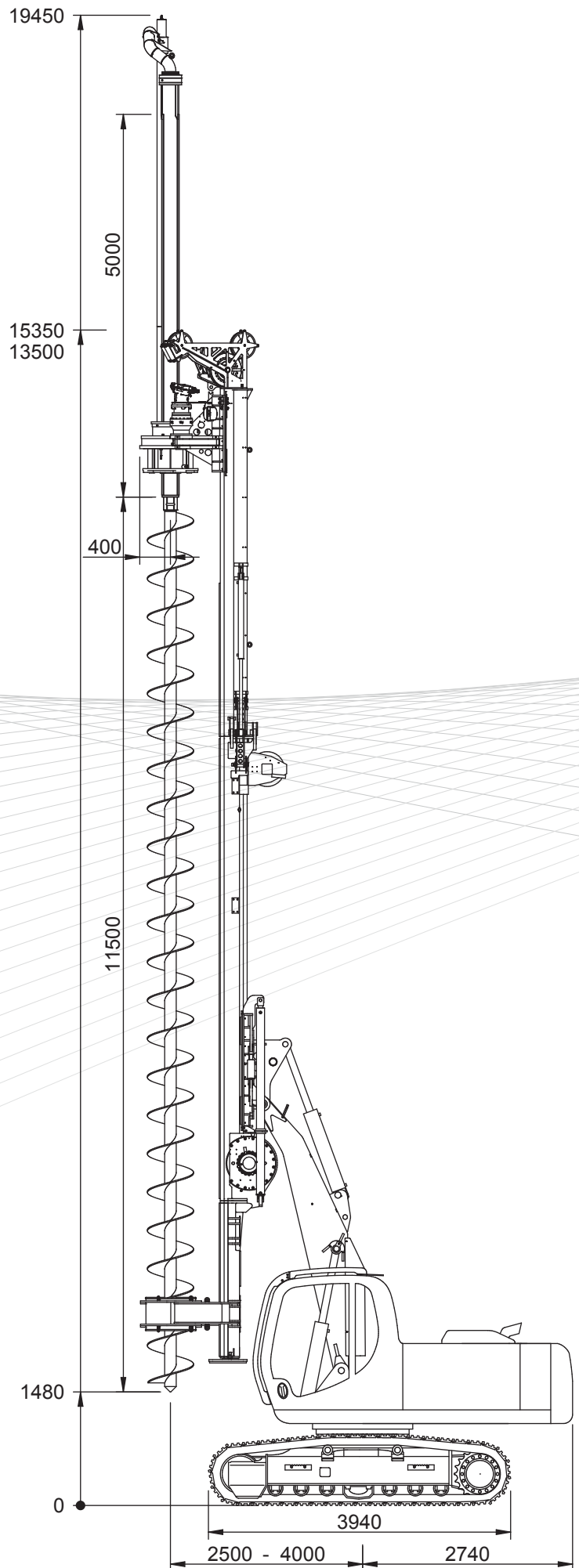
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CFA

Pull down force	100 kN - 22.480 lbf
Extraction force	360 kN - 80.940 lbf
Mast vertical stroke	2.250 mm - 7.4 ft
Total rotary stroke	12.750 mm - 41.8 ft
Max pile diameter	750 mm - 30 in
Max pile depth	16.5 m - 54.1 ft
Min working height	13500 mm - 44.3 ft
Weight (w/o tool)	25.000 kg - 55.100 lb



Front of the wall Rotary (optional)



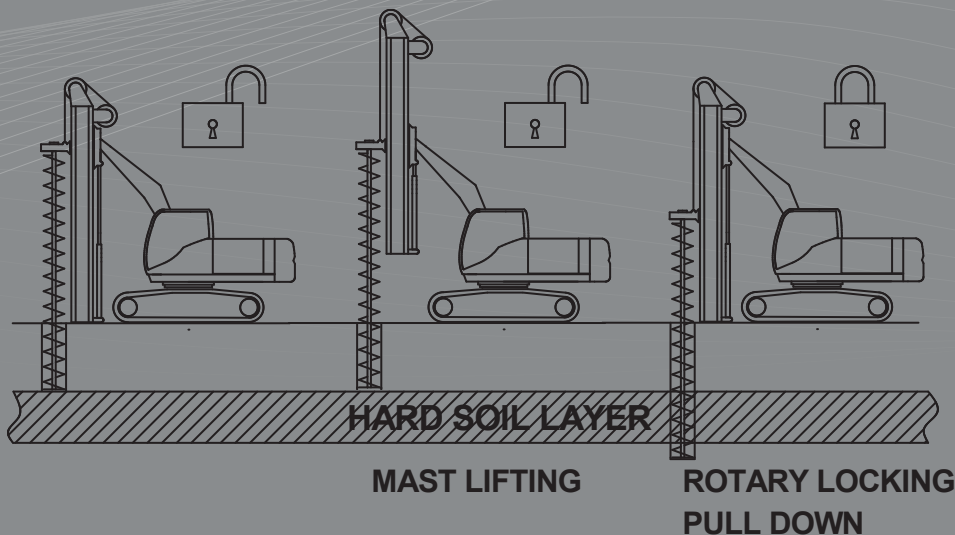
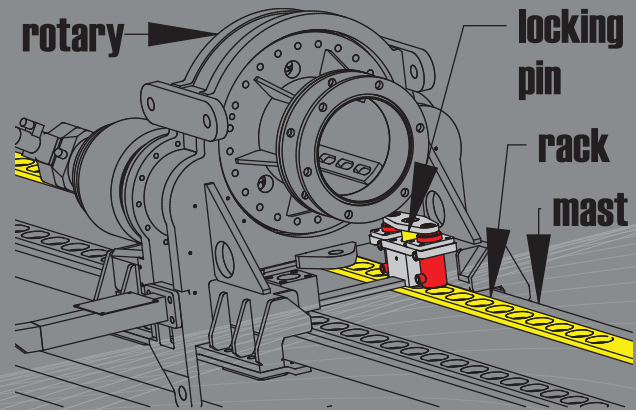
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BPS patented crowd system for CFA piles

The pull-down system type BPS is GEAX's patented crowd system for CFA piling, providing a mechanical locking system between the rotary head and the mast which creates a crowd force on the auger and the crowd force is available along the entire length of the mast.

The pull-down system is activated only when needed by the operator and requires no pulleys or ropes.

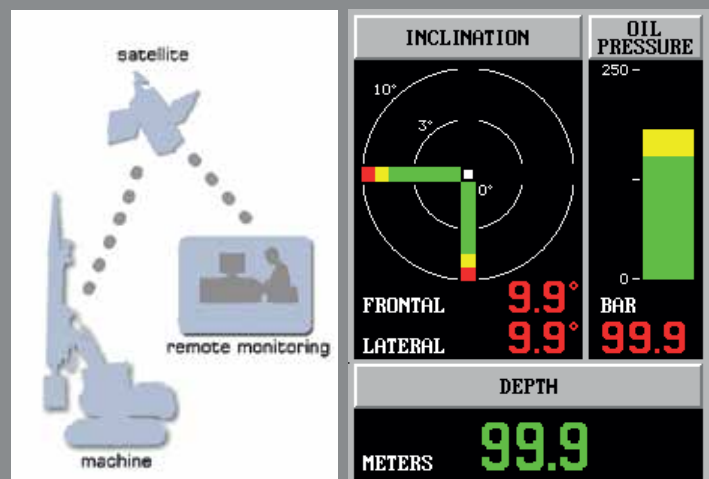


Electronic devices

EK series machines are equipped with an electronic system which controls and displays several functions and parameters.

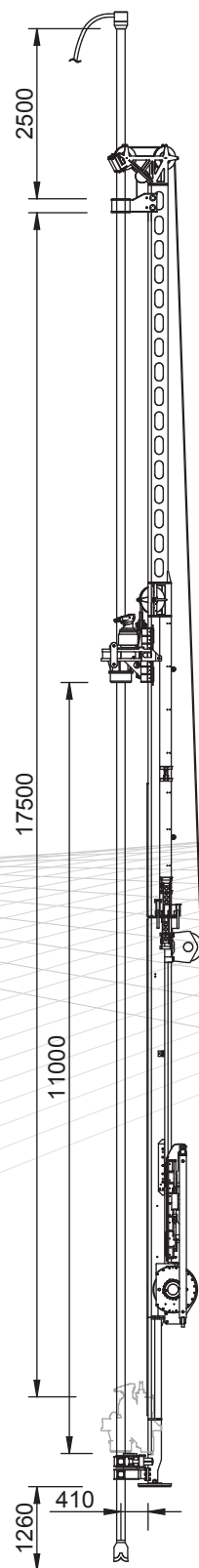
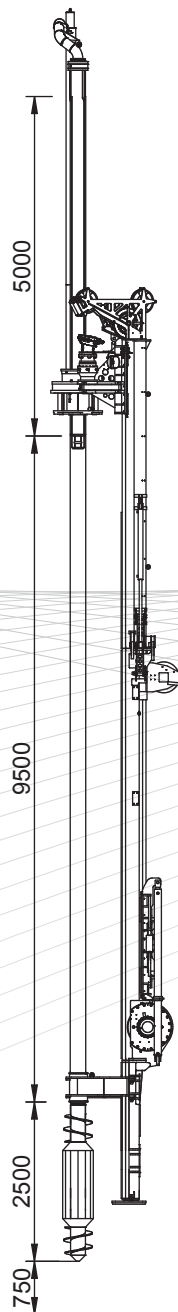
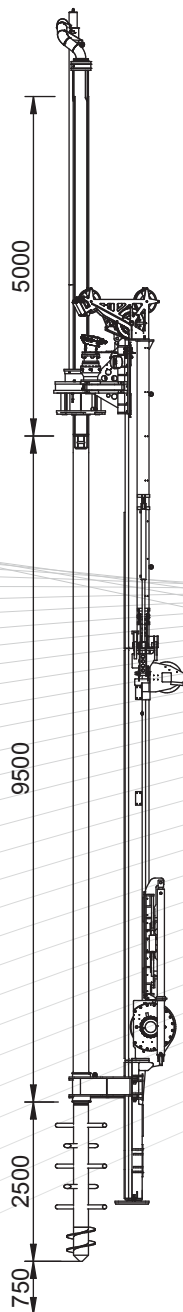
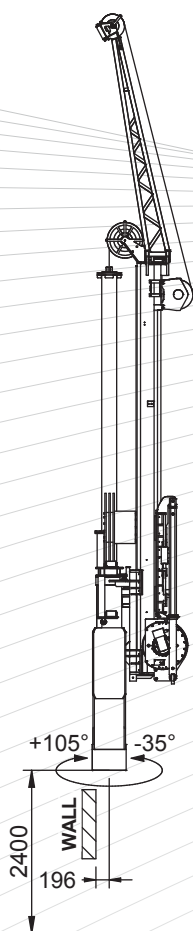
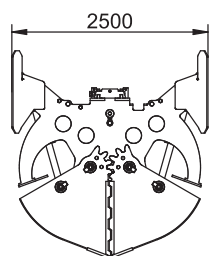
- Automatic alignment of the mast
- Mast inclination display
- Depth measuring device
- Pressure gauge for an auxiliary input

A GPS system enables GEAX owners to monitor and manage their machines remotely by a PC connected to the Internet



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DRILLING KITS



Diaphragm wall

Max Depth 16 m
Trench width 300 ÷ 600 mm
Trench length 2500 mm
Grab closing force 200 kN
Grab rotation +105° ÷ -35°

Soil Mixing

Max depth 16.5 m
Max diameter 600 mm
Rotary speed 80 rpm

Soil Displacement

Max depth 16.5 m
Max diameter 450 mm
Pull down force 100 kN
Extraction force 360 kN

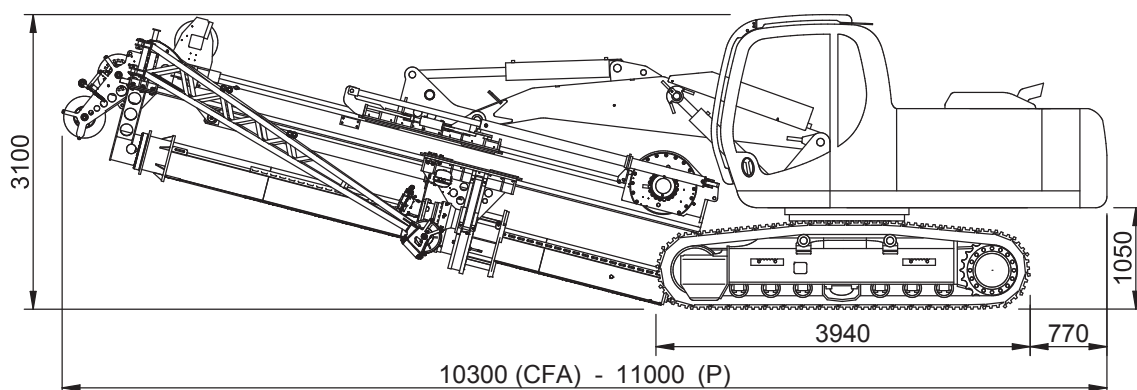
Jet Grouting

Max depth 21 m
Max torque 12 kNm
Rotary speed 60 ÷ 180 rpm
Pull down force 100 kN
Extraction force 240 kN
Rev. clamps 60 ÷ 360 mm
Mandrel 60 ÷ 140 mm

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TECHNICAL DATA SHEET

BASE		HITACHI ZX160 / JCB JS160	
Engine	<i>type</i>	ISUZU AM-4JJ1X / JCB ECOmax 444	
Engine power	<i>kW (hp)</i>	90.2 (121) / 93 (125)	
Undercarriage length	<i>mm - ft</i>	3920 - 12.86 / 3940 - 12.93	
Width over tracks	<i>mm - ft</i>	2490 - 8.2	
Shoe width	<i>mm - in</i>	500 - 19.7	
HYDRAULIC SYSTEM			
Main pumps	<i>l/min</i>	2x191 / 2x164	
Auxiliary pump	<i>l/min</i>	2x33.6 / 2x20.5	
Hydraulic pressure	<i>bar</i>	320	
MAST			
Forward inclination	<i>deg</i>	20	
Backward inclination	<i>deg</i>	20	
Lateral inclination	<i>deg</i>	5	
Mast vertical stroke	<i>mm - ft</i>	2250 - 7.4	
ROTARY			
Nominal torque	<i>kNm - lbf ft</i>	90 - 66.380	
Drilling speed	<i>rpm</i>	10 ÷ 40	
Spin off speed	<i>rpm</i>	90	
WINCHES		KELLY	CFA
Main winch line pull	<i>kN - lbf</i>	120 - 26.980	120x3 - 26.980x3
Aux winch line pull	<i>kN - lbf</i>	37 - 8.320	37 - 8.320
CROWD SYSTEM			
Pull down force	<i>kN - lbf</i>	100 - 22.480	100 - 22.480
Extraction force	<i>kN - lbf</i>	180 - 40.450	360 - 80.900
Total rotary stroke	<i>mm - ft</i>	4.250 - 14	12.750 - 41.8
EXCAVATION			
Max pile diameter	<i>mm - in</i>	1.500 - 60	750 - 30
Max pile depth	<i>m - ft</i>	31 - 101.70	16.5 - 54.1
Min working height	<i>mm - ft</i>	7.000* - 23	13.500 - 44.3
TRANSPORT			
Length	<i>mm - ft</i>	11.000 - 36	10.300 - 33.8
Width	<i>mm - ft</i>	2.490 - 8.2	2.490 - 8.2
Height	<i>mm - ft</i>	3.100 - 10.2	3.100 - 10.2
Weight	<i>kg - lbs</i>	26.000 - 57.300	25.000 - 55.100





Via Campoceraso 13 - 60027 OSIMO (AN) ITALY

Tel: +39 0717131953 - Fax: +39 071715199

geax.it - info@geax.it