



**Levent**  
4004  
CORE DRILLING RIG

# Levent<sub>4004</sub> Core Drilling Rig

The LEVENT 4004 is an all-hydraulic diamond core drill rig with a wide range of options and accessories. It consists of three main parts: the drill unit, a power unit, and a control console. As an option, the drill unit can be mounted on carriers for special purposes like a narrow crawler for underground use, or a wide crawler for surface use. It is suitable for a variety of drilling methods in both underground and surface operations such as core drilling, grout hole drilling, probing etc..

The drill unit can be powered by an electric motor or diesel engine. When the drill rig is equipped with the electrical power unit, as an optional diesel engine for tramping is available.

The LEVENT 4004 uses the best technology available for diamond core drills. All tube jointing, thread breaking, feeding, wireline, hoist sequences are controlled from a control console which can be positioned to suit the setup. Feeding is done by a direct cylinder, thereby eliminating chains in the feed system.

The drill can be equipped with two different feed lengths, and two different sizes of rotation units to suit rod size and drilling applications.

To achieve the best results with regard to:

- high penetration
- optimal core recovery
- and low drilling costs

It is of primary importance that drill rods, core barrels and coring bits are of the right type and quality, matched to the rock drill and to the prevailing rock conditions.

Bearing in mind core drill's speed of rotation, its rating and chuck diameter, the LEVENT 4004 is best suited to drill holes 60-96 mm in diameter (B-H) using both conventional as well as wire line rods.

The spindle inner diameter is 101.6 mm (4 in) in the H-size rotation unit.



# Technical Specifications

## Drilling Depth Capacity

These figures serve as guidelines only. They are calculated with available pull/feed force, weight of drill string in water filled hole, average WOB and reserve for breaking solid core in rock with 5MPa Tensile Strength. Son-Mak cannot guarantee these capacities will be reached in all working conditions due to varying factors such as ITH used, conditions of the ground and differences in operation.

Drill Rod	Vertical Down		Vertical Up	
	Metric	U.S. System	Metric	U.S. System
BO / BRO Wireline	2380 m	7808 ft	1500 m	4921 ft
NO / NRO Wireline	1550 m	5085 ft	1000 m	3280 ft
NRO Thin Wall	1740 m	5708 ft	1150 m	3772 ft
HO / HRO Wireline	1000 m	3280 ft	580 m	1902 ft
HRO Thin Wall	1150 m	3772 ft	640 m	2099 ft

## Rotation Unit

Rod sizes:	B-H
Power:	Hydraulic Motor
Max. Torque:	2425 Nm (1789 ft lbf)
Max. Rotation Speed:	1400 rpm
Type:	Hydraulic Closed, Spring Open
Spindle Inner Diameter:	101.6 mm (4 in)
Chuck axial holding force:	150 kN (33721 lb)

## System Power Unit

Electrical Power Unit PU110E	Metric	U.S. System
Power:	110 kW	148 hp
RPM:	1450	1450
Primary Pump:	200 l/min - 315 bar	52.8 gal/min - 4569 psi
Secondary Pump:	65 l/min - 240 bar	17.2 gal/min - 3481 psi
Auxiliary Pump:	65 l/min - 240 bar	17.2 gal/min - 3481 psi
Oil Tank:	130 liters	34.4 gallons
Hydraulic Oil Cooling:	Water and Air Oil Cooler	

## System Power Unit

Diesel Power Unit PU150D	Metric	U.S. System
Volume:	6.7 liter	1.77 gallons
Power:	164 kW	220 bhp
RPM:	1800	1800
Electrical System:	12V	12V
Cooling System:	Water	
Emmissions Certifications:	Stage III	Tier 3
Engine Type:	Turbo Charged, After Cooled Diesel Engine.	
Primary Pump:	250 l/min - 315 bar	66 gal/min - 4569 psi
Secondary Pump:	80 l/min - 240 bar	21 gal/min - 3481 psi
Auxiliary Pump:	80 l/min - 240 bar	21 gal/min - 3481 psi
Oil Tank:	130 liters	34.4 gallons
Hydraulic Oil Cooling:	Water and Air Oil Cooler	



Feed Frame Alternatives	1800	
	Metric	U.S. System
Feed Stroke:	1800 mm	71 in
Thrust Force:	130 kN	29225 lbf
Pull Force:	130 kN	29225 lbf
Max. Feed Speed:	0.9 m/s	2.7 fps
Drilling Angle:	45 to 90 degrees	

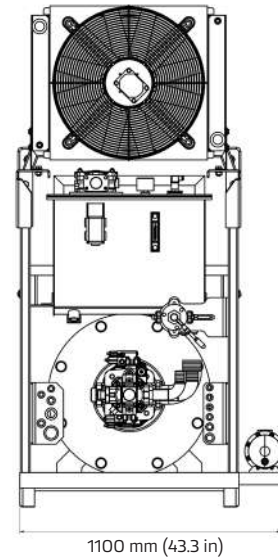
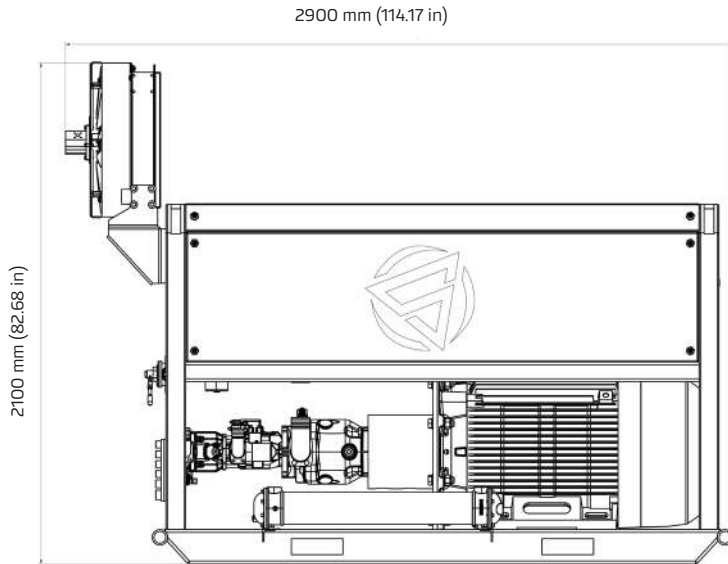
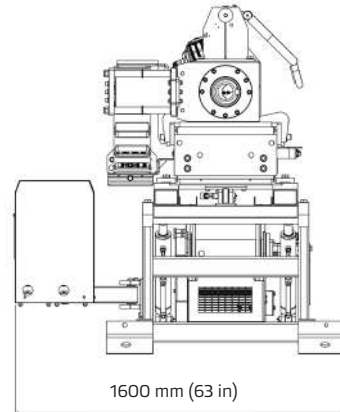
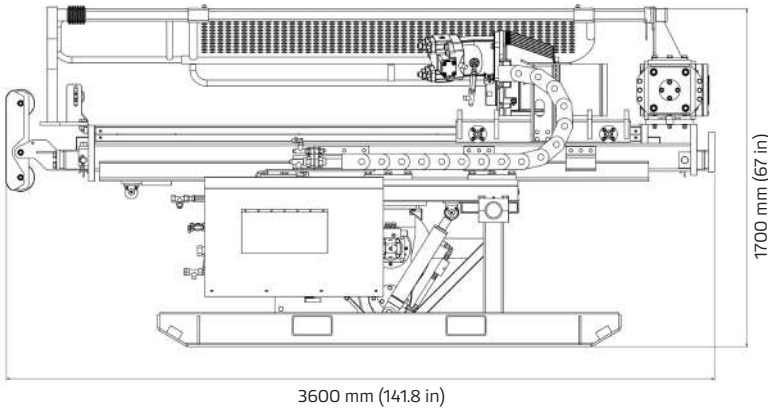
Rod Holder	Metric	U.S. System
Maximum Rod Size (HWT)	114,3 mm	4.5 in
Maximum Inside Diameter (w/oJaws):	125 mm	4.9 in
Holding Force:	130 kN	29225 lbf
Holding Force with TC Inserts::	133 kN	29900 lbf
Type:	Hydraulically open, gas pressure close	

Wireline Hoist	Metric	U.S. System
Drum Capacity (4.76mm - 3/16" wire)	2000 m	6561 ft
Line pull min. (full drum)	3.5 kN	786 lb
Line pull max. (bare drum)	11 kN	2472 lb
Line speed min. (bare drum)	85 m/min	278 ft/min
Line speed max. (full drum)	245 m/min	803 ft/min
Level wind angle:	Adjustable	

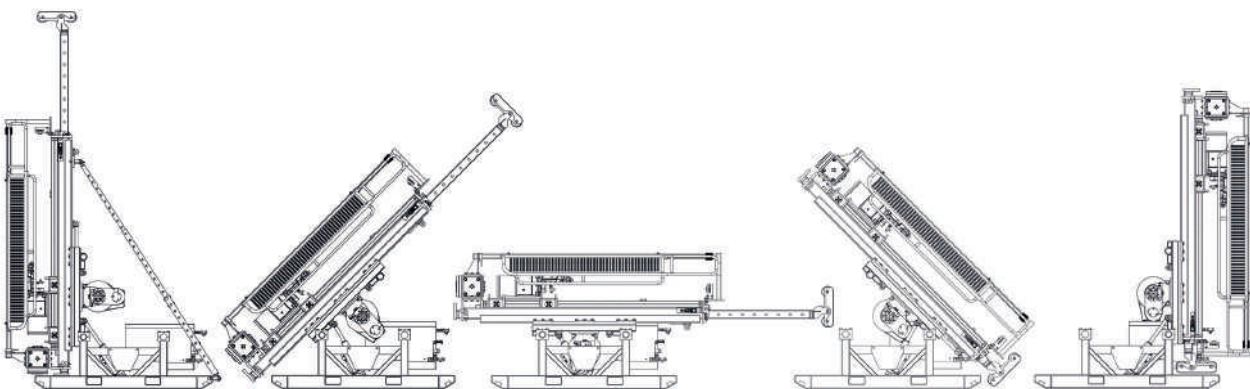
\*\*\*There is an automatic winding system to prevent the rope from making straight or mixed winding.

Mud Pump	Metric	U.S. System
<b>TP135H</b>		
Flow:	135 l/min	35 gal./min
Pressure:	70 bar	1000 psi

# Transportation Dimensions



## Working Positions from -90° to +90°



### Weight

Drilling Unit and Control Unit : 4210kg (9280 lb)  
Power Unit: 1800 kg (3968 lb)





**SON-MAK**

MAKİNE - İNŞAAT - SONDAJ SAN. TİC. LTD. ŞTİ.

Kayapa I. Organize Sanayi Bölgesi

Kayapa Sanayi Bulvarı No:4/1 16280 Nilüfer BURSA - TÜRKİYE

Tel: +90 224 440 0 555 (pbx) Fax: +90 224 482 44 39

info@son-mak.com.tr www.son-mak.com.tr