
GEO SONDAJ MAKİNE İMALAT LTD. ŞTİ.
2010
GEO DRILLING
MACHINERY

GEO DRILLING MACHINERY

Geo Drilling Machinery Manufacturing Co., Ltd. was founded in 2010 to meet the drilling industry the current demands and requirements more economically by innovatively products and helping customers find better way to drill more meters , more productively.

Geo Drilling Machinery Manufacturing Co., Ltd. strives to improve manufacturing capacity by utilizing of collective year experience of Ortadoğu Drilling Ltd. which is our partner drilling company and using our safety regulated drilling equipment and rigs at deep core drilling project.

After foundation of our company, as a result of studies, it has started to produce drilling machines GEO 500, GEO 900, GEO 1500, drilling equipment and water pump. While producing these drilling machines, Geo Drilling Machinery Manufacturing Co., Ltd. which is making designs according to demands and innovative, utilized from support program sponsored by Tubitak Technology and Innovative Support Programs Department (TEYDEB) and Ankara Development Agency Project. Those projects are distinguished below:

- No. 7110412 Crawler Mounted Hydraulic Core Drilling Machine Development Project (1.07.2011-30.06.2012)
- No. 7120574 Electrically Signed Hydraulic Drilling Machine Development Project (1.07.2012-30.06.2013)
- No. 7130123 Sonic Drilling Machine Development Project (01.02.2013-01.08.2014)
- GEO 3000 MP Slim Hole Drilling Machine Development Project (14.08.2014-14.05.2015)

Drilling Rigs and Equipment

RIGS

DRILLING PUMPS

GEO 500

PERFORMANCE SPECIFICATION

DEPTH CAPACITIES (VERTICAL BOREHOLE):

	Dry Hole (m)*	Wet Hole (m)*
PQ	300	350
HQ	520	600
NQ	760	850
BQ	1000	1100

(*) Depth capacity is given according to standard QWL rods. Depth capacity might be increased while using the rods which have light weight V-wall or different thread design.

POWER UNIT

Power Unit (Engine Option I)

MFG: Iveco

Model: N67 MNT F41

Power: 165 kW- 210 HP @ 1600 rpm

Fuel consumption: 128 g/kWh @ 1600 rpm

Engine Type: Diesel Turbo charged/ After cooled

Cooling: Water

Power Unit (Engine Option II)

MFG: Deutz

Model: TCD 2012

Power: 135 kW-184 HP -- 155 kW-210 HP @ 2400 rpm

Fuel consumption: 150 g/kWh @ 1600 rpm -- 215 g/kWh @ 2400 rpm

Engine Type: Turbocharging with charge air cooler

Cooling: Air

TORQUE & RPM RATINGS:

Extreme duty gear driven head powered by 4 speed transmission with hydraulic sliding.

Power: 80 cc, 2 Speed Bent Axis Piston Type Hydraulic Motor.

Gear Ratio	Speed (RPM)	Torque (Nm)
1. 6.27: 1	98-159	2452-3981
2. 3.12: 1	112-320	1220-1981
3. 1.75: 1	352-571	684-1111
4. 1.00: 1	671-1000	391-635

LUBRICATION UNIT:

Hydraulically driven cooled oil circulation

CHUCK ASSEMBLY:

Type: 5 jaws - Hydraulic Open/ Spring Closed.
Maximum Inside Diameter: 120 mm (PQ)
Holding Capacity: 18 143 kg

HYDRAULIC SYSTEM (@1600 RPM):

Main Pump
Maximum Flow Rate: 120 L/min
Maximum Pressure: 280 Bar

Second Pump
Maximum Flow Rate: 72 L/min
Maximum Pressure: 280 Bar

Auxiliary Pump
Maximum Flow Rate: 70 L/min
Maximum Pressure: 280 Bar

Mixer Pump
Maximum Flow Rate: 40 L/min
Maximum Pressure: 250 Bar
Hydraulic oil cooling: Air

MAST AND FEED SYSTEM:

Standard 6 m pull, angle hole, telescopic mast for ease of set up.

Drilling Angle: 45 – 90 degree
Sliding Distance: 2.00 m (According to must axis)
Feed Travel: 3.40 m
Telescopic Mast: 3.30 m
Feed Speeds: Fast and Slow with Variable Controls
Maximum Pull: 15 898 kg
Maximum Push: 12 750 kg

MAIN HOIST:

Hydraulic driven planetary winch.
Capacity: 9000 kg (single line)
Cable Size: 30 m x 16 mm rope
Line Speed: Bare drum 35 m/min

WIRE-LINE WINCH:

Hydraulically driven with integral counter balance valves.

Capacity: 1500 m of 4.76 mm rope
Line Pull: Bare drum: 1870 kg
Full drum: 545 kg
Line Speed: Bare drum: 138 m/min
Full drum: 474 m/min

ROD CLAMP:

Hydraulically powered BQ to PW rod jaw sizes.

WATER PUMP:

Hydraulically driven 835 water pump
Maximum Flow rate: 35 gpm @ 800 psi

MUD MIXER:

Hydraulically driven mud mixer
Maximum speed: 2300 rpm Weight: 10 000 kg

DRILL BASE SUPPORTS:

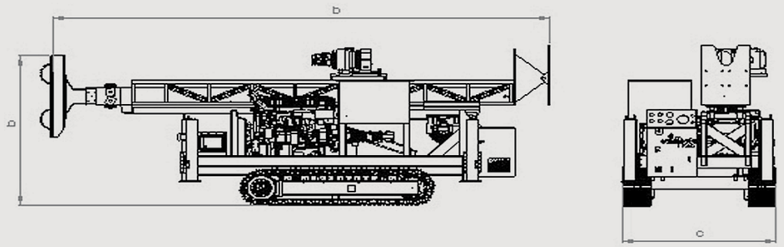
Crawler
Supports: 4 hydraulic jacks

OPTIONAL EQUIPMENT:

- Welding generator
- Hydro pump
- Mast lightening and installation
- Water pump release valve, water pump manometer, water pump accumulator and diaphragm
- Hydraulic mud mixing tank
- Trailer mounted rig, four 800 mm wheels
- Hydro pump and cyclone (If third pump is demanded at drill rig.)

DIMENSIONS:

a= 7200 mm
b= 2570 mm
c= 2420 mm



GEO 900

PERFORMANCE SPECIFICATION

DEPTH CAPACITIES (VERTICAL BOREHOLE):

	Dry Hole (m)*	Wet Hole (m)*
PQ	590	690
HQ	900	1000
NQ	1300	1500
BQ	1700	2000

(*) Depth capacity is given according to standard QWL rods. Depth capacity might be increased while using the rods which have light weight V-wall or different thread design.

POWER UNIT

Power Unit (Engine Option I)

MFG: Ford

Model: Ecotorq

Power: 175 kW-238 HP @ 1600 rpm

Fuel consumption: 192 g/kWh @ 1600 rpm

Engine Type: Diesel Turbo charged/ After cooled

Cooling: Water

Power Unit (Engine Option II)

MFG: Deutz

Model: TCD 6.1 L6

Power: 162 kW-220 HP @ 1600 rpm -- 180 kW @ 2300 rpm

Fuel consumption: 150 g/kWh @ 1600 rpm – 215 g/kWh @ 2300 rpm

Engine Type: Turbocharging with charge air cooler

Cooling: Air

TORQUE & RPM RATINGS:

Extreme duty gear driven head powered by 4 speed transmission with hydraulic sliding.

Power: 107 cc, 2 Speed Bent Axis Piston Type Hydraulic Motor.

Gear Ratio	Speed (RPM)	Torque (Nm)
1. 6.27: 1	122 - 199	5322 - 3254
2. 3.12: 1	246 - 400	2648 - 1620
3. 1.75: 1	439 - 714	1620 - 908
4. 1.00: 1	714 - 1250	849 - 519

LUBRICATION UNIT:

Hydraulically driven cooled oil circulation

CHUCK ASSEMBLY:

Type: 5 jaws - Hydraulic Open/ Spring Closed.
Maximum Inside Diameter: 120 mm (PQ)
Holding Capacity: 18 143 kg

HYDRAULIC SYSTEM (@1600 RPM):

Main Pump
Maximum Flow Rate: 160 L/min
Maximum Pressure: 280 Bar

Second Pump
Maximum Flow Rate: 72 L/min
Maximum Pressure: 280 Bar

Auxiliary Pump
Maximum Flow Rate: 40 L/min
Maximum Pressure: 280 Bar

Mixer Pump
Maximum Flow Rate: 32 L/min
Maximum Pressure: 250 Bar
Hydraulic oil cooling: Air

MAST AND FEED SYSTEM:

Standard 6 m pull, angle hole, telescopic mast for ease of set up.

Drilling Angle: 45 – 90 degree
Sliding Distance: 2.00 m (According to must axis)
Feed Travel: 3.40 m
Telescopic Mast: 3.30 m
Feed Speeds: Fast and Slow with Variable Controls
Maximum Pull: 15 898 kg
Maximum Push: 12 750 kg

MAIN HOIST:

Hydraulic driven planetary winch.
Capacity: 13 000 kg (single line)
Cable Size: 33 m x 16 mm rope
Line Speed: Bare drum 27 m/min

WIRE-LINE WINCH:

Hydraulically driven with integral counter balance valves.

Capacity: 2000 m of 4.76 mm rope
Line Pull: Bare drum: 1870 kg
Full drum: 545 kg
Line Speed: Bare drum: 138 m/min
Full drum: 474 m/min

ROD CLAMP:

Hydraulically powered BQ to PW rod jaw sizes.

WATER PUMP:

Hydraulically driven 835 water pump
Maximum Flow rate: 35 gpm @ 800 psi

MUD MIXER:

Hydraulically driven mud mixer
Maximum speed: 2300 rpm

DRILL BASE SUPPORTS:

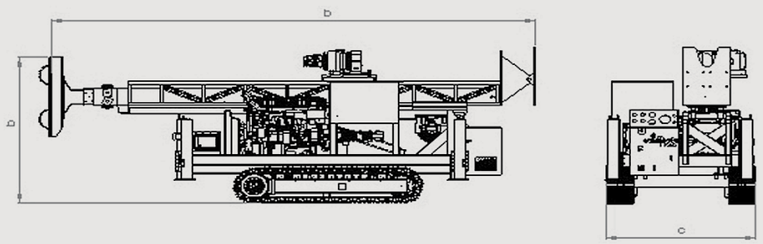
Crawler
Supports: 4 hydraulic jacks

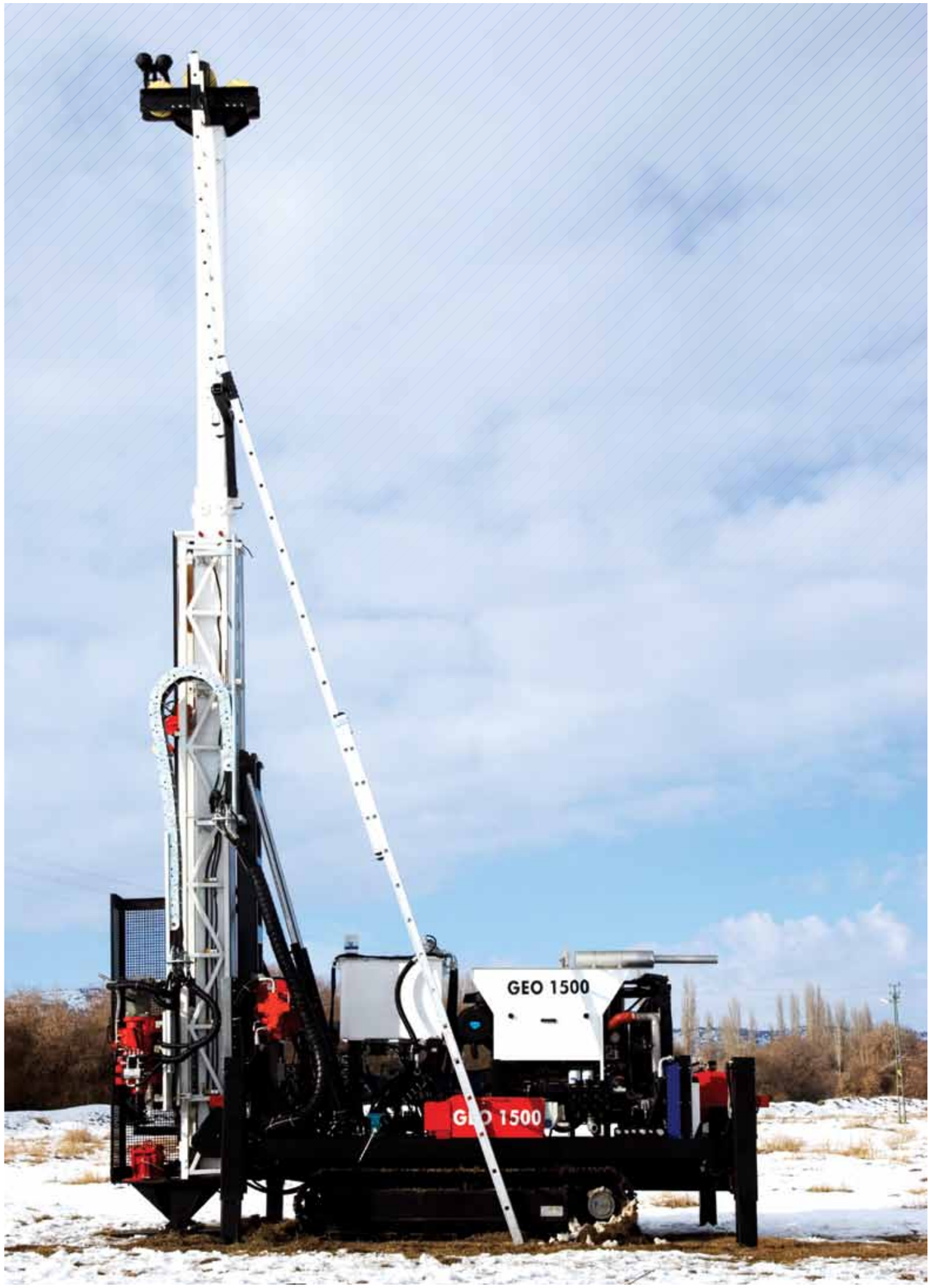
Optional Equipment:

- Welding generator
- Hydro pump
- Mast lightening and installation
- Water pump release valve, water pump manometer, water pump accumulator and diaphragm
- Hydraulic mud mixing tank
- Trailer mounted rig, four 800 mm wheels
- Hydro pump and cyclone (If third pump is demanded at drill rig.)

DIMENSIONS:

a= 7200 mm
b= 2570 mm
c= 2420 mm
Weight: 11 250 kg





GEO 1500

PERFORMANCE SPECIFICATION

Depth Capacities (Vertical Borehole):

	Dry Hole (m)*	Wet Hole (m)*
PQ	1040	1190
HQ	1420	1590
NQ	2230	2660
BQ	3020	3460

(*) Depth capacity is given according to standard QWL rods. Depth capacity might be increased while using the rods which have light weight V-wall or different thread design.

POWER UNIT

Power Unit (Engine Option I)
MFG: Ford
Model: Ecotorq
Power: 175 kW-238 HP @ 1600 rpm
Fuel consumption: 192 g/kWh @ 1600 rpm
Engine Type: Diesel Turbo charged/ After cooled
Cooling: Water

Power Unit (Engine Option II)
MFG: Deutz
Model: TCD 2013
Power: 170 kW-232 HP @ 1600 rpm – 200 kW-272 HP @ 2300 rpm
Fuel consumption: 195 g/kWh @ 1600 rpm -- 205 g/kWh @ 1600 rpm
Engine Type: Turbocharging with air cooled
Cooling: Air

TORQUE & RPM RATINGS:

Extreme duty gear driven head powered by 4 speed transmission with hydraulic sliding.
Power: 160 cc, 2 Speed Bent Axis Piston Type Hydraulic Motor.

Gear Ratio	Speed (RPM)	Torque (Nm)
1. 6.27: 1	122-199	5322-3254
2. 3.12: 1	246-400	2648-1620
3. 1.75: 1	439-714	1620-908
4. 1.00: 1	714-1250	849-519

LUBRICATION UNIT:

Hydraulically driven cooled oil circulation

CHUCK ASSEMBLY:

Type: 5 jaws - Hydraulic Open/ Spring Closed.
Maximum Inside Diameter: 120 mm (PQ)
Holding Capacity: 18 143 kg

HYDRAULIC SYSTEM:

Main Pump
Maximum Flow Rate: 208 L/min
Maximum Pressure: 280 Bar

Second Pump
Maximum Flow Rate: 72 L/min
Maximum Pressure: 280 Bar

Auxiliary Pump
Maximum Flow Rate: 40 L/min
Maximum Pressure: 280 Bar

Mixer Pump
Maximum Flow Rate: 32 L/min
Maximum Pressure: 250 Bar
Hydraulic oil cooling: Air

MAST AND FEED SYSTEM:

Standard 6 m pull, angle hole, telescopic mast for ease of set up.

Drilling Angle: 45 – 90 degree
Sliding Distance: 2.00 m (According to mast axis)
Feed Travel: 3.40 m
Telescopic Mast: 3.30 m
Feed Speeds: Fast and Slow with Variable Controls
Maximum Pull: 15 898 kg
Maximum Push: 12 750 kg

MAIN HOIST:

Hydraulic driven planetary winch.
Capacity: 19 000 kg (single line)
Cable Size: 33 m x 16 mm rope
Line Speed: Bare drum 26 m/min

WIRE-LINE WINCH:

Hydraulically driven with integral counter balance valves.

Capacity: 2200 m of 4.76 mm rope
Line Pull: Bare drum: 1870 kg
Full drum: 545 kg
Line Speed: Bare drum:138 m/min
Full drum: 474 m/min

WATER PUMP:

Hydraulically driven 835 water pump
Maximum Flow rate: 35 gpm @ 800 psi

MUD MIXER:

Hydraulically driven mud mixer
Maximum speed: 2300 rpm

DRILL BASE SUPPORTS:

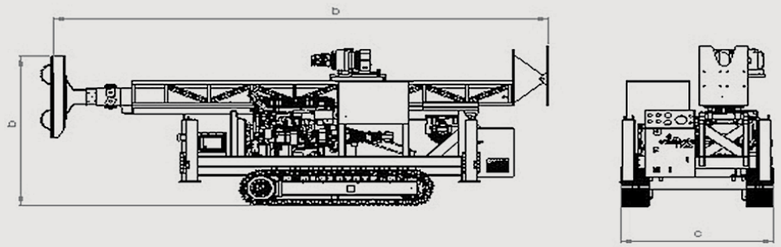
Crawler
Supports: 4 hydraulic jacks

OPTIONAL EQUIPMENT:

- Welding generator
- Hydro pump
- Mast lightening and installation
- Water pump release valve , water pump manometer, water pump accumulator and diaphragm
- Hydraulic mud mixing tank
- Hydro pump and cyclone (If third pump is demanded at drill rig.)

DIMENSIONS:

a= 7400 mm
b= 2500 mm
c= 2300 mm
Weight: 15 000 kg



Drilling Equipment

ROD
CASING
CORE BARREL
DRILL BIT
OVERSHOT RELEASE
CASING SHOE
ADAPTERS
WATER SWIVEL
HOISTING PLUG
RECOVERY TOOL
GEOTECHNICAL EQUIPMENT
HYDROCYLONE
CORE BOXES

ROD

Wireline, DCDMA and Metric standards rods are produced with and without heat-treatment.

CASING

DCDMA and Metric standards casing are produced.

CORE BARREL

Wireline, DCDMA and Metric standards core barrels are produced.

DRILL BIT

GEO branded Wireline, DCDMA, Metric standards impregnate diamond drill bits are produced and also, we are selling EHWA diamond bits which are produced in Korea, and we are sole agent of them in Turkey.

OVERSHOT AND OVERSHOT RELEASE

Overshot and overshot release in BQ, MQ, HQ sizes and PQ conversion kit are produced.

CASING SHOE

DCDMA and Metric standards casing shoes which are suitable with casing and wireline rods.

ADAPTORS

Adaptors in accordance with all standards are produced.

WATER SWIVEL

Water swivel and parts are produced.

HOISTING PLUG

Hoisting plug and parts are produced.

FISHING TOOL

Right/left handed bell taps and rod casing taps according to all sizes are produced.

GEOTECHNICAL EQUIPMENT

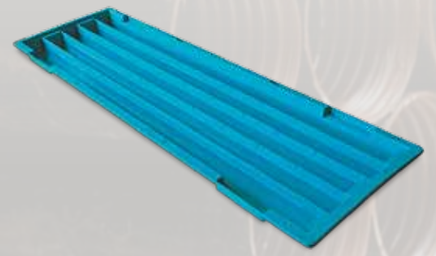
Packer test equipment, control units, piezometer, cement plugs are produced.

HYDROCYLONE

Hydrocylone drilling mud desander is used to remove sand and cuttings from drilling mud.

CORE BOXES

P, H, N, B wireline sizes core boxes are produced by using UV&wear protection additives mixed polypropylene.



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2010

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