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# FACT SHEET

**The Sonic  
SDC 450-24**

**SONIC  
DRILL RIG**

**GEOMECH AFRICA  
LEVEL 1 - B-BBEE**

[www.geogroup.co.za](http://www.geogroup.co.za)





## About The Sonic SDC 450-24 Drill Rig

Geomechanics has added Sonic Drilling technology and expertise to its growing fleet of over 60 rigs.

Sonic Drilling offers many advantages over conventional drilling in overburden ground conditions:

- It delivers superior information collection
- It reduces waste by up to 80%
- It is 3-5 times faster than conventional drilling
- Superior well construction
- It reduces risk of project failure due to unknown or difficult subsurface conditions.
- It enables more to be done with a single borehole because it advances a temporary outer casing as the borehole is drilled.

The Sonic 450-24 rig is able to provide continuous core samples to depths of more than 100 meters without using any drilling mud. As a result, sonic drilling can be employed in many applications including geotechnical and geothermal projects, environmental investigations and mineral exploration.



## How It Works

The Sonic Drill Corporation's patented sonic drill head works by sending high frequency resonant vibrations down the drill string to the drill bit, while the operator controls these frequencies to suit the specific conditions of the soil/rock geology. Resonance magnifies the amplitude of the drill bit, which fluidizes the soil particles at the bit face, allowing for fast and easy penetration through most geological formations. An internal air spring isolates these vibrational forces from the rest of the drill rig.

By providing the necessary rotational and vibrational forces, the sonic rig is able to core and case holes in any overburden material, drilling where most other rigs can't.

## All The Benefits

Whether your drilling needs are for environmental, water supply development, geoconstruction, geotechnical or mineral exploration, Sonic drilling technology offers several distinct advantages over conventional drilling in overburden ground conditions.

### **Superior Information**

Sonic drilling provides a continuous, relatively undisturbed core sample of unparalleled quality and accuracy through any type of formation. When using the Iso-Flow groundwater profiling system, hydrogeological and geochemical data can be easily obtained.

# THE SONIC SDC 450-24

## All The Benefits

### Waste Reduction

Sonic drilling reduces waste by up to 80% relative to conventional methods by other competitors.

### Speed

Sonic drilling is two to three times faster than conventional overburden drilling methods when sampling.

### Superior Well Construction

Sonic drilling causes minimal disturbance to the surrounding bore hole wall, resulting in more efficient well development and performance.

### Risk Minimization

Sonic drilling greatly reduces the risk of project failure due to unknown or difficult subsurface conditions. Projects finish on time and on budget. Sonic drilling obtains the lowest total project cost possible.

### Flexibility

Sonic drilling advances a temporary outer casing as the borehole is drilled, allowing you to do more within a single borehole.

## Technical Specifications

POWER SOURCE	Caterpillar C7, 6 CYL, 7.2L, Turbocharged, 250HP @ 1800 RPM, Tier 4 "Flex", Hydraulic Oil Cooler, 24VDC
RIG DECK	(4) 4" x 24.5" Jacklegs w/ Counter Balance Valve, (4) Jackleg Covers, Formed & Reinforced Deck Skin, Tubular & Channel Framework, Anti-Slip Surface
DRILLING MAST	Single Tube Construction, 15 FT Head Travel, Hydraulic Cylinder/Chain Driven System, Fully Enclosed, Pullback 22,260 LBS, Pulldown: 12,369 LBS, Max Casing Length 10 FT
JIB HOIST (OPTION)	Main Hoisting Winch, Top Mount, 4,000 LBS Capacity (Bare Drum), 72 FPM
WATER PUMP (OPTIONS)	FMC W1122 BCD, 37 GPM, 1,000 PSI (Other pump sizes available)
HYDRAULIC SYSTEM	Triple mount pump drive, 6 variable displacement pumps, pressure and flow controlled
SONIC HEAD	Model Sonikor 50K, Hydraulic 60 Degree Tilting Cylinder; Upgraded Water Swivel
HORSE CARRIER SYSTEM	High Pressure Hydraulic Tubing
CONTRZSWING ARM	Compact Lightweight Configuration, Ergonomic Configuration, Key Start, Remote Throttle, Digital Tachometer, Pilot Control Valves, Electro Mechanical Valves
CRAWLER BASE	Rubber Tracks, Wireless Radio Transmitter
BREAKOUT TABLE	BTC-28 Open C-Clamp Table, Clamping Range: 2.5 to 8.625 inch nominal c/w hinge



# SONIC SDC 450-24



## The GeoGroup

GeoGroup comprises of a group of companies, each a leader in its own field, providing a range of services to the geotechnical, civil, mining and energy industries.

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## About Geomech Africa

Geomech Africa (Pty) Ltd is an industry leader in the geotechnical investigations in Southern Africa. Certified as a **Level 1 B-BBEE** contributor. Providing drilling and testing services to the minerals exploration market, as well as geotechnical and civil industries in and around Southern Africa and Africa.

Geomechanics has long-term policies of developing operational/maintenance staff and upgrading equipment, to ensure that geotechnical investigations conducted for our clients are accurate, timely, cost effective and easily interpreted.

GeoGroup Head Office



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