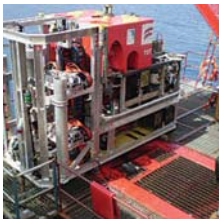
SEAFLOOR GEOSERVICES

Equipment | People | Analysis

Geotechnical Products and Services

SEAFLOOR GEOSERVICES



Seafloor Geoservices Inc. is a newly formed, Houston-based Triton Group member company, whose principal mission is to offer a reliable, competent and competitive service to support the Offshore Geotechnical Investigation and Mineral Exploration communities by fully utilizing the expertise shared among the Triton Group member companies and other leading external industry partners.

...BRINGING OUT THE BEST

Today's applications for offshore geotechnical investigations and mineral exploration demand robust and proven technologies, plus a flexible attitude and approach to delivering unique solutions being seamlessly integrated to produce the highest quality sampling and analysis possible.

Seafloor Geoservices Inc. firmly believes that the only way to achieve this is to bring together the recognized industry-leading equipment manufacturers and services providers to offer a complete and comprehensive service to the offshore geotechnical and mineral exploration communities.

CAPABILITIES

- Seafloor Geoservices is capable and qualified to provide competent, accurate and reliable geotechnical services through strong partnerships with Triton Group member companies and external industry specialists.
- The Rovdrill® M series product is a viable technical and economic alternative to present drillship and other seabed equipment and operations for gathering high-quality seabed measurements and core samples.
- Since Rovdrill and associated services utilize vessels and ROV systems of opportunity – this platform allows the delivery and scheduling of Rovdrill and services to be client driven, rather than supplier driven.



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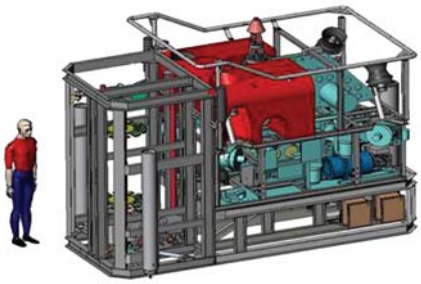
EQUIPMENT

The first-generation Rovdrill is a subsea drilling system designed to take geological core samples using conventional diamond drilling techniques in water depths to 3,000 meters (9,840 feet). Rovdrill has been designed for use in conjunction with a Heavy-Duty Work-class ROV of opportunity as a package fully interfaced to the host ROV. Rovdrill utilizes existing terrestrial drilling and coring technology, and commercial, off-the-shelf equipment adapted, repackaged and marinized to be operable in the deepwater marine environment. Subsequent Rovdrill systems are a development of this foundation concept, with further enhancements and refinements to meet the continuing challenges of global offshore geotechnical and mineral exploration activities.

ROVDRILL®



- Rovdrill® 1: First-generation Rovdrill
- Designed for shallow coring mineral exploration applications
- Not suitable for soft soil site investigations
- Working depth = 3,000msw
- Maximum coring depth = 18m
- Core diameter = 2.188" (55.6mm) standard

ROVDRILL® M50

- Second-generation Rovdrill design, retaining integrated ROV operating feature
- Working depth = 2,200m maximum (limited by ROV umbilical lift capacity)
- Maximum coring depth = 55m – wireline coring as standard
- Core diameter = 2.75" (69.85mm) standard
- Rotary, push sampling and CPT as standard

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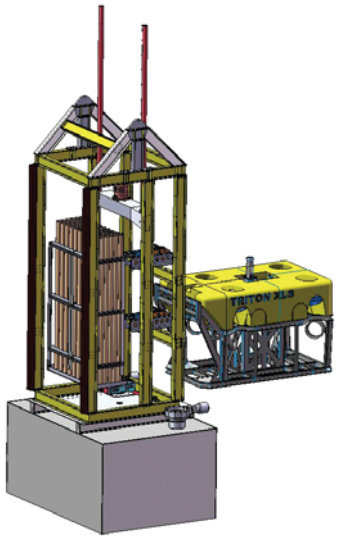
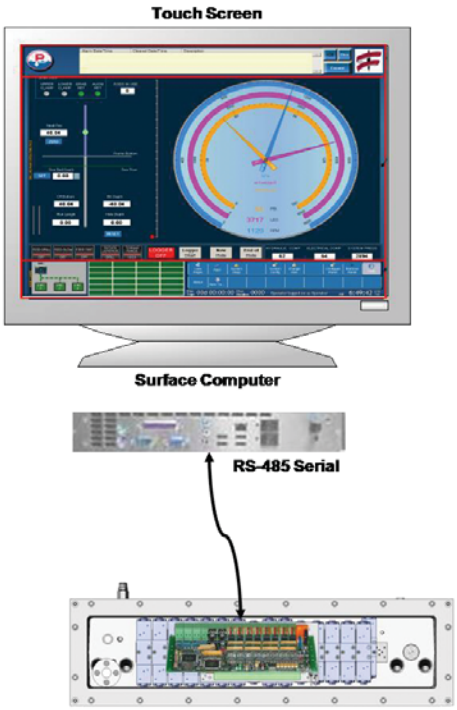
ROVDRILL® M80



- Second-generation Rovdrill design, with full geotechnical capabilities
- Custom-designed interchangeable foundation options to suit project/seabed requirements
- Working depth = depth rating of support ROV
- Coring/sampling depth = 80m standard, expandable to 160m, core diameter = 3" (76.2mm)
- Wireline rotary, push sampling, CPT as standard
- Interchangeable foundation assemblies for a wide range of seabed conditions:
  - Suction Caisson – soft to medium-stiff soils
  - Three-legged, self-leveling jack-up – stiff soils/rock
  - Three-legged, self-leveling jack-up with auger anchors – stiff soils/rock

ROVDRILL SURFACE CONTROL SYSTEM

- Rovdrill uses a subset of the ICE® Hardware and Software – the very latest, proven generation of PSS ROV control system
- Touch-screen controls
- Single-surface computer
- Graphical User Interface (GUI) with user configurable pages
- Subsea manifold with Local Valve Controller (LVC) – NO ELECTRONICS PRESSURE VESSEL
- Full mission simulation can be offered through complete integration with vmax TECHNOLOGIES



ROVDRILL® ...Bringing Out the Best

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ROVDRILL M80 BASIC OPERATIONAL REQUIREMENTS

- Vessel of opportunity, including:
  - 150 HP Work-class ROV Spread:
    - Subsea hydraulic power: 68 lpm (18 gpm) at 207 bar (3,000 psig) from the ROV auxiliary pump
    - Subsea electrical power: single phase power, 5 amps at 120 volt
    - Access to a single mode fiber or twisted shielded pair in the ROV umbilical
    - Access to the ROV's telemetry system for data transfer
  - Deck-mounted, dynamic knuckle boom crane preferable
  - Fast deployment wire winch (preferably heave-compensated)
- Interchangeable foundation assemblies – suction caisson/skirted mud mat or three-legged, jack-up assemblies – supplied as part of Rovdrill spread
- ROV-mountable suction anchor installation workskid – supplied as part of Rovdrill spread (soft soils only)
- Personnel provided by Seafloor Geoservices Inc. (basic operations):
  - Rovdrill driller/operators = three off – based on 2 x 12 hr. offshore operations per day
  - Rovdrill technicians = two off – based on 2 x 12 hr. offshore operations per day
- Additional personnel and equipment provided by Seafloor Geoservices Inc (advanced operations):
  - Requirements as per basic operations, plus Seafloor Geoservices will supply:
    - Additional specialized geotechnical equipment and support personnel

ROVDRILL® M80 DEVELOPMENT/FOOTPRINT DIMENSIONS

ROVDRILL® M80	LENGTH (m)	WIDTH (m)	HEIGHT (m)	MASS (in Air)
Rovdrill M80 Complete Subsea Assembly, including:	3.6m	2.6m	8.8m	10.8 Te
1. Rovdrill M80 Drilling Module	2.2m	2.2m	5.2m	5.5 Te
2. Rovdrill M80 Skirted Mud Mat	3.6m	2.6m	1.8m	5.4 Te
Rovdrill M80 Drill Module Flat Rack	6.0m	2.4m	2.6m	3 Te
Rovdrill M80 Surface Control Console	Additional full-height rack with touch screen, surface computer and joystick shelf, supplied with Rovdrill spread and integrated into ROV control cabin during mobilization			
Offshore Soils Test Laboratory	Standard 20 ft. x 8.5 ft. x 8 ft. x 15,000 lbs. ISO Container			

The ultimate goal is to bring the soils laboratory to the seafloor where samples can be accurately classified at their in situ temperatures and ambient pressures. But this task has become more arduous in the constant drive for more classification of seabed characteristics at unexplored locations and depths. Rovdrill systems, in combination with proven ROV systems and expert technical and geotechnical support, provide the complete solution for the most challenging offshore environments.

To summarize, the Rovdrill system offers the end user:

- System designed and built by Perry Slingsby Systems under an exclusive licensing arrangement with SGI. PSS, the world leader in ROV/tool manufacture and control systems to the oil and gas industry for over 40 years.
- Timely and economic mobilizations possible with a variety of vessel and platform types and classes, without the need for specialized vessels of limited availability demanding a high day rate.
- Further utilization of existing work-class ROV (WROV) spreads, multitask geotechnical and geophysical missions can be executed using the same vessel and ROV spread without the need to return to port for remobilization.
- Superior sample quality through a stable seabed foundation – not influenced by the motions of the surface vessel or platform or the prevailing sea state.

CONTACT INFORMATION

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