

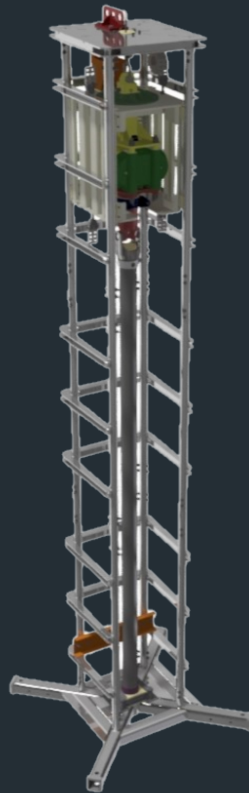


GEO-100

UNDERWATER VIBROCORER



Efficiency, Modularity, and Precision for Offshore Geotechnical Investigations Down to 100 Meters Depth.



TECHNICAL SPECIFICATIONS AND PRODUCT DATA SHEET

SYSTEM OVERVIEW

The **GEO-100** is a cutting-edge vibrocoreing system engineered to meet the most demanding challenges of marine geotechnical and environmental investigations. By combining powerful mechanical thrust, lightweight structural materials, and intelligent surface telemetry, the GEO-100 ensures maximum core recovery even in the most complex and compact stratigraphies.

KEY OPERATIONAL ADVANTAGES

Modularity & Lightweight Design

Fully manufactured from 6082 aluminum alloy, it combines high structural integrity with reduced weight, significantly easing vessel deck handling operations.

Ready to Deploy (Plug-and-Play)

Engineered to minimize operational downtime. Enables rapid mobilization, streamlining logistics and deployment setups.

Configurational Versatility

Modular height increments allow the frame length to be adjusted to match exact project sampling requirements.

Stratigraphic Control

Advanced frequency adjustments preserve core sample integrity by adapting to variable sediment densities.

TECHNICAL SPECIFICATIONS

PARAMETER	TECHNICAL SPECIFICATION	OPERATIONAL BENEFIT
Thrust Force	Up to 70 kN	Effective penetration even in highly compact sediments and stiff soils.
Operating Depth	Up to 100 m	Maximum versatility for coastal, port, and offshore survey environments.
Frame Material	6082 Aluminum	High structural durability and total resistance to marine corrosion.

PARAMETER	TECHNICAL SPECIFICATION	OPERATIONAL BENEFIT
Length Modularity	From 2 to 6 meters	Flexible configuration based on targeted core length and vessel limits.
Connection System	Plug-and-Play	Rapid deck installation and a drastic reduction in rig-up times.

TECHNOLOGY & ADVANCED SURFACE CONTROL

Frequency Control

Allows real-time vibration frequency tuning to optimize penetration performance based on the specific encountered stratigraphy.

Real-Time Monitoring

An integrated penetration sensor feeds continuous, highly accurate data on the corer's progress into the seabed directly to the operator.

Marine Core Drilling Division

For commercial inquiries, quotes, or technical support regarding the GEO-100:

Email: b.aiello@polarispro.it | Website: carotaggimarini.polarispro.it

TECHNICAL APPENDIX: MASS CALIBRATION

SPEED / CORRECT CENTRIFUGAL FORCE PROGRESSION

Reference operating parameters for optimized vibrocore performance ensuring safe continuous operation.

UNIBLOK CONFIGURATION

Frequency (Hz)	Speed (RPM)	Centrifugal Force (kN)	Operational work notes
28	1700	24	Initial speed, controlled (above reference point)
30	1800	28	Standard nominal frequency
33	2000	35	Intermediate centrifugal force increase
37	2250	45	TARGET 45 kN (Recommended usage limit)

SMALL MASSES CONFIGURATION

Frequency (Hz)	Speed (RPM)	Centrifugal Force (kN)	Operational Work Note
30	1800	17	Initial speed, controlled (above reference point)
40	2400	30	Standard nominal frequency
50	3000	50	Intermediate centrifugal frequency
60	3600	70	TARGET 45 kN (Recommended usage limit)