

NuShuttle

Oceanographic data gathering vehicle



www.chelsea.co.uk

A versatile, accessible towed undulating data gathering vehicle for both coastal and ocean monitoring



Applications

- Oceanographic data gathering from ships of opportunity
- Ecosystem health monitoring
- Pollution monitoring and dye tracing studies
- Sea truthing for satellite remote sensing
- Continuous plankton monitoring and sampling
- Estuary, coastal zone and open ocean surveys

Features

- Proven open ocean capability & reliability
- An extremely rugged stainless steel/ polyethylene construction
- Highly stable, lightweight & robust
- Large payload capability
- Pre-programmable or real-time control
- Wide tow speed range (5-15 knots)
- Undulation depth range from 0 to >150m



What can the NuShuttle do for you?

Introduction

CTG's **NuShuttle** is a stable, very robust, versatile undulating towed vehicle for the deployment of a wide range of oceanographic monitoring equipment. Developed by Chelsea Technologies Group and the Plymouth Marine Laboratory, UK, **NuShuttle** has been designed to meet the requirements for a low cost, large payload vehicle.

How does it work?

The **NuShuttle** is controlled by a Servo Unit with on-board pressure sensor for feedback. The Servo Unit is powered by an Impellor, and is mechanically linked to the control fin. The Servo Unit is programmed to instruct the **NuShuttle** to follow a user set undulation path.

Configurations

The **NuShuttle** can be configured to operate either autonomously with a non-conductive tow cable, or configured to provide real-time data to the surface via conductive cable.

CTG's **NuShuttle** can be fitted with a wide variety of sensors to provide data on such parameters as conductivity, temperature, depth, chlorophyll, hydrocarbon and Gelbstoff fluorescence, turbidity, optical transmittance, bioluminescence, nutrient, redox and dissolved oxygen. It also has capacity to carry a mechanical Plankton Sampler or an Optical Plankton Counter.



Specification

NuShuttle

Length, width, height	1.3 x 0.5 x 0.6 metres
Weight	72kg in air, 45kg in water
Depth range	0 to 80 metres unfaired cable 0 to >150 metres faired cable
Towing speed	5 to 15 knots
Dive / climb speed	Up to 2 m/s
Flight programme	Input from PC via Windows software.
Elevator Servo	PID digital control. On-board depth sensor for feedback.
Power	Impeller driven alternator powering Elevator Servo above 5 knots.
Material	Welded Steel frame onto which polyethylene panels are fixed, stainless steel frame & towing yoke.

Support Systems

Winch	Dedicated winch with slip ring assembly only required when used in real-time mode with power/data communication to surface deck unit. When towing on a bare cable, a standard ships capstan may be used.
Cable	Rochester 7-H-314A or equivalent for real-time deployments.
Fairing	Flexnose(R) style fairing is used for increased depth and undulation range performance.

Contact us today to see how we can help you

