TRIAXUS
Oceanographic ROTV system

Adding a new dimension to towed vehicles, TRIAXUS is the natural step forward from the existing 2D towed vehicle technology to a true 3D towfish. TRIAXUS uses state-of-the-art computer technology and fibre optic telemetry for vehicle and sensor communication.

TRIAXUS features flaps for vertical as well as lateral control. A powerful industrial PC controls the vehicle based on input from the onboard vehicle control sensors according to the preprogrammed flight path.

TRIAXUS is developed for high-speed oceanographic data acquisition work and is designed to undulate between 1 and 350 metres*. Lateral offsets of up to 80 metres to either side of the ship is possible, enabling the vertical profiling to be carried out in an undisturbed water column. Towing speed* between 2 and 10 knots and vertical speed* of up to 1 metre per second are possible.

TRIAXUS has been designed using the latest carbon fibre moulding technologies, and the Danish Maritime Institute (DMI) has supplied the hydrodynamic design.

The embedded telemetry system is based on the successful MacArtney NEXUS fibre optic multiplexer system, allowing interface of up to 9 additional sensor packages using the plug-and-play principle.

*) Depending on vehicle version, tow cable and sea state.

The man machine interface (MMI) is an easy-to-use Windows based software package. The system is designed to carry a broad range of sensor packages from the leading manufacturers of oceanographic monitoring equipment including:

Survey equipment

- CTD
- Optical plankton counter
- PAR and radiation sensor
- Fluorometer
- Transmissometer
- Video plankton recorder
- Camera and light
- Other oceanographic sensor

Features and benefits

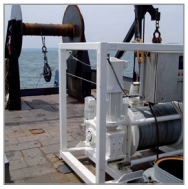
- Steerable towed data collection platform
- 3D undulation
- Software controlled steering functions
- Highly stable in all planes
- Proven hydrodynamic design
- Built-in standard control sensors
- User-friendly controls and displays
- Modular, rugged and streamlined design
- Low noise magnetic and acoustic signatures
- Onboard fibre optic telemetry system
- High payload for multiple peripheral equipment
- Plug and play for additional sensors
- High data transmission rates
- 100 MBit Ethernet subsea LAN port
- Electro-optic tow-cable

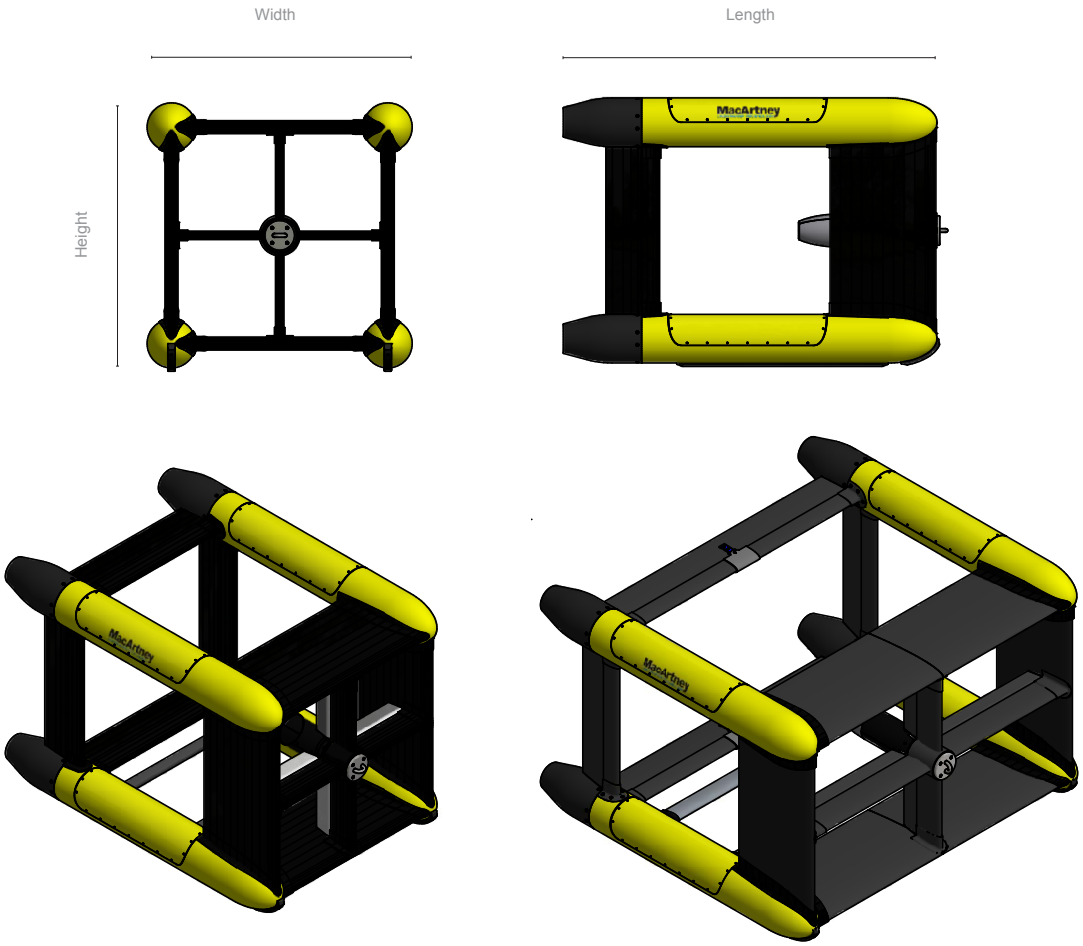
Applications

- Ocean science
- Fisheries research
- Hydrodynamic studies

Standard vehicle control sensors

- Attitude sensor
- Depth sensor (Digiquartz)
- Altimeter





Specifications

TRIAXUS D (standard version)

Envelope:	0-175 m* at 8 knots Using a 10 mm fibre optic tow cable
Tow speed:	2-10 knots*
Vertical speed:	5-100 cm/s
Payload:	40 kg
Dimensions:	(W x H x L) 1,250 x 1,250 x 1,850 mm
Weight:	120-160 kg (depending on sensor configuration)
Materials:	Syntactic foam, carbon fibre

TRIAXUS E (extended version)

Envelope:	0-350 m* at 8 knots Using a 10 mm fibre optic tow cable
Tow speed:	2-10 knots*
Vertical speed:	5-100 cm/s
Payload:	50 kg
Dimensions:	(W x H x L) 1,950 x 1,250 x 1,850 mm
Weight:	130-170 kg (depending on sensor configuration)
Materials:	Syntactic foam, carbon fibre

Power and data (both versions):
10 off full duplex serial data, channels RS 232, RS 422, TTL data formats, 10/100 Mb and 1 Gb Ethernet channels, 12/24/48 V DC power supply switchable from the topside unit

*) Depending on vehicle version, tow cable and sea state