ECLIPSE

MULTIBEAM IMAGING SONAR

Benefits

- Clear visualisation of underwater environment
- Vertical measurement capability
- Forward looking imagery increases target acquisition and aids in navigation

Features

- 3D Model View of sonar imagery
- 2D Search Mode for obstacle avoidance
- Not affected by poor water visibility
- True time-delay beamforming techniques
- Electronic beam steering
- High-speed data acquisition
- ROV or vessel deployed
- Real-time 3D imaging and measurement

Applications

- Mattress laying in zero visibility
- Construction support
- Search and salvage operations
- Pipeline inspection
- Pipeline touchdown monitoring
- Dredging and rock dumping
- Harbour wall inspection

Pier arch structure survey displayed clearly using 3D Model View

Eclipse is a highly versatile multibeam sonar which has the ability to clearly visualise the underwater environment in 3D. Eclipse can carry out horizontal *and* vertical measurements through the use of Tritech's true time-delay beamforming and electronic beam steering technology; making Eclipse the most flexible multibeam imaging sonar on the market.

Eclipse can be deployed on an ROV at depths down to 1000m both in Forward Looking Navigation and 3D Model View modes.

Forward Looking Navigation

In forward-looking or search mode, Eclipse produces 2D imagery which can be used to aid navigation and obstacle avoidance when mounted on a ROV.

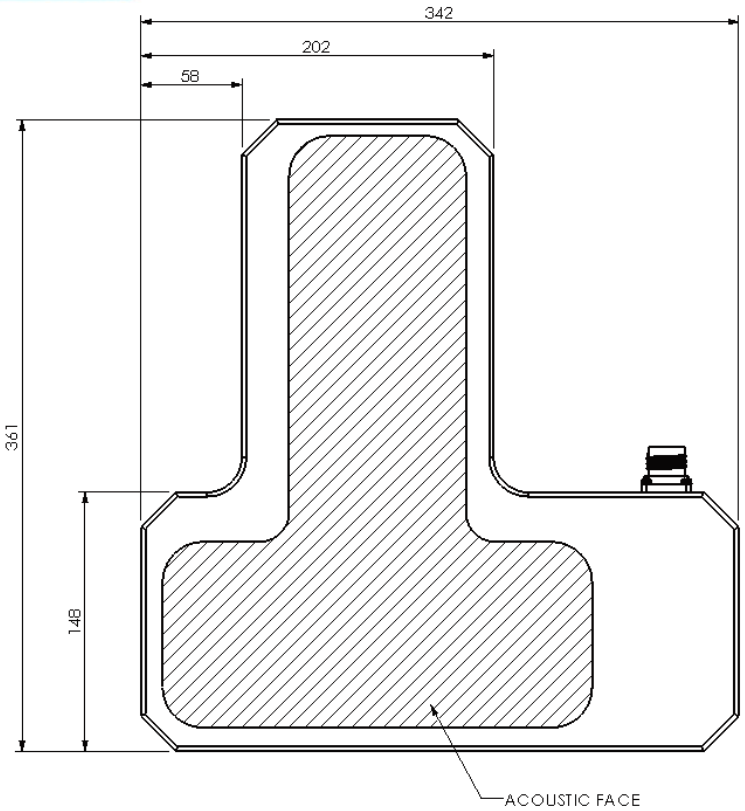
3D Model View

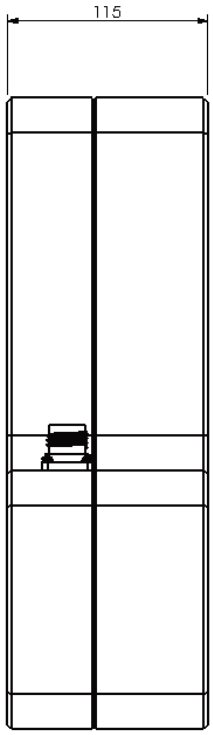
Eclipse's 3D Model View allows imaging up to 40m range, with 0.5º sweep steps. By electronically sweeping the 1.5º x 120º profiling beam, a 120º (horizontal) by 45º (vertical) volume can be produced ahead of the sonar. Depending on range setting, the Eclipse can image a complete volume scan in less than one second.

Measurements possible with Eclipse's 3D model view include; range, bearing, horizontal and vertical distance and the slope angle between two points of interest. The 3D volume image can also be digitised onto a points cloud for export to third party applications for further processing.

Eclipse sonar head

SPECIFICATION





All dimensions are in mm

Operating Frequency	240 kHz
Acoustic Angular Resolution	1.5°
Beam Width	120°
Number of Beams	256
Effective Angular Resolution	0.5°
Range Resolution	2.5cm (0.98”)
Typical Ranges	2D forward looking = 60m (197ft) 2D search mode = 120m (393ft) 3D = 40m (131ft)
Minimum Focus Distance	0.4m (1.31ft)
Scan Rate	140Hz @ 5m, 7Hz @ 100m

INTERFACE

Power Consumption	60W
Supply Voltage	Nominal 20-28 VDC
Connectivity	Ethernet (100baseT)
Surface Control Unit	Eclipse is provided with a powerful multi-processor PC with advanced graphics capability. The PC contains dedicated hardware required to communicate with the Eclipse sonar head and run the Eclipse software package.

MECHANICAL

Depth Rating	1000m (3280ft)
Weight in air	19kg (41.9lb)
Weight in water	9kg (19.8lb)
Width	342mm (13.5”)
Height	361mm (14.2”)
Depth	115mm (4.53”)

All specifications are subject to change in line with Tritech’s policy of continual product development.

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