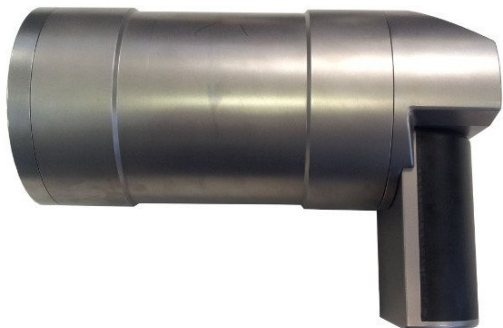


# Gemini NBI

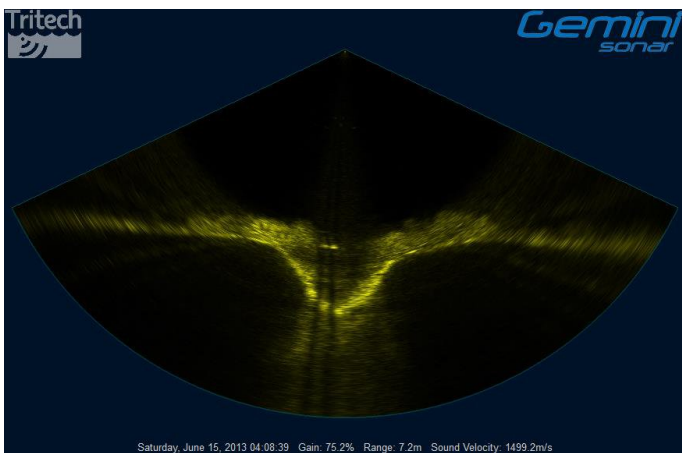
## Narrow Beam Imaging



Operating at 620kHz the Gemini NBI is able to produce images with 10mm range resolution while the 0.5° horizontal angular resolution results in an extremely sharp sonar image.

The multibeam transducer design used for the Gemini NBI results in a 130° sector scan width and advanced technology allows update rates as high as 30 scans per second. With wide angle imaging and a high refresh rate the user is able to quickly and effectively manoeuvre to a target in poor visibility conditions.

Gemini NBI can be supplied with either Ethernet or VDSL communication allowing the system to interface to deep water systems with multiplexers as well as shallow water systems where there may only be a copper shielded twisted pair (STP) available. The Gemini NBI software can be run on the Trittech Surface Control Unit (SCU) or installed on the customers own laptop PC.



Trittech's Gemini NBI Image of an excavation operation showing the clear visibility of a cable being trenched (image courtesy of Reef Subsea Dredging & Excavation).

**The Gemini NBI offers a narrow vertical beam and 130° swathe.**

The Gemini NBI produces an acoustic image, cutting through the water with a narrow acoustic beam and at the high refresh rate offered from the Gemini range of multibeam sonars. Based on the proven design of the Gemini 720i, the Gemini NBI uses a 1° vertical beam instead of the 20° vertical beam found on the 720i. This reduced beam width allows the user to more precisely identify the position of the acoustic targets than is possible with a wide beam imaging sonar which is commonly used for obstacle avoidance operations.

### Benefits

- High speed updates
- 4000m titanium housing
- Solid-state design reliability
- Easy to use software package

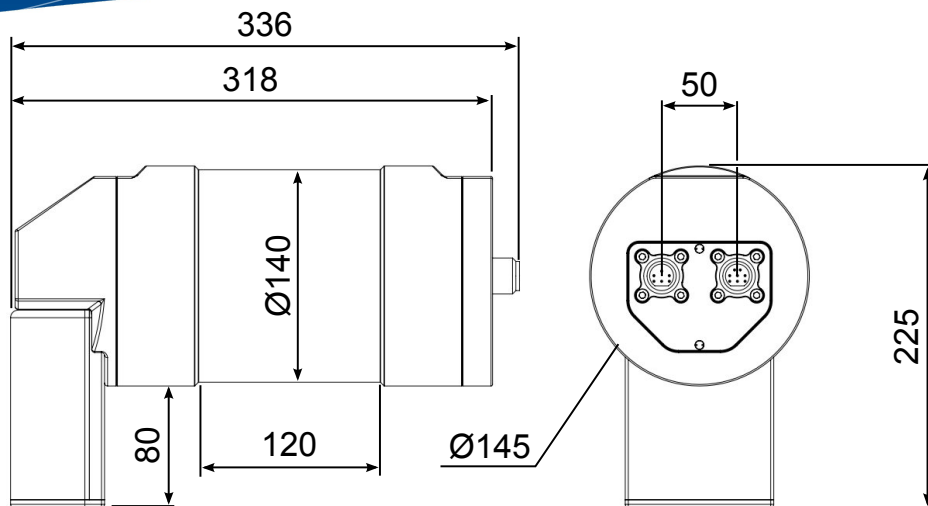
### Features

- Ethernet or VDSL communication
- 130° swathe
- 1° vertical beam
- 0.5° effective angular resolution

### Applications

- Pipe and cable lay tracking
- Trenching operation monitoring
- Mining visualisation
- ROV/AUV navigation
- Subsea mining
- Excavation and dredging operations

# Specification



## Acoustic Specifications

Operating Frequency	620kHz
Angular Resolution	1.0° acoustic, 0.5° effective
Swathe	130°
Number of Beams	256
Vertical Beamwidth	1°
Range	0.5 to 120m
Update Rate	5 – 30Hz (range dependent)
Range Resolution	10mm (range dependent)
Pulse Length	25 – 200µs (range dependent)

## Interface

Power Consumption	37W maximum (range dependent, head unit only)
Supply Voltage	22 – 75V DC
Communications Protocols	Ethernet (up to 80m) or VDSL (up to 1000m)
Connector Type	Burton 5506 Series
VDSL cable length	Maximum length for VDSL and power is 300m, if power is provided locally (e.g., by the ROV), then cable length for VDSL communications is 1000m.

## Physical Specifications

Weight	14.6kg air, 9.5kg water
Depth Rating	4000m
Material	Titanium (6 AL-4V)
Finish	Bead blasted
Operating Temperature	-10 to 35°C
Storage Temperature	-20 to 50°C

Specifications subject to change according to a policy of continual development.

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