

# **Vigilant FLS®** Forward Looking Sonar



Wavefront apply engineering excellence to the problems of underwater detection, imaging and navigation. Our operationally proven market-leading sonar systems are reliable, easy to use and designed to provide real-world solutions.

Our sonar technology allows us to make the underwater world visible.

## **Vigilant FLS**<sup>®</sup>

Vigilant Forward Looking Sonar's (FLS) automated alarms highlight hidden objects, including ice, containers and marine mammals, in the water column up to 1500m ahead. With unrivalled resolution and detail, it delivers real-time, easily interpreted 3D terrain maps of the seabed ahead.





## Explore with confidence - Transform your vessel's underwater situational awareness.





## Vigilant FLS 3D Mode

In 3D Mode, Vigilant shows the water depth in a fully rotatable, interactive 3D display. Good for a complete perspective on situational awareness.



## Vigilant FLS 2D Mode

In 2D Mode, Vigilant shows water depth colour coded on a bow up display. Good for confined waters where you want a detailed image around you.



#### **Overview**

Navigate confidently through poorly charted or dynamic water environments using Vigilant forward looking sonar (FLS) technology. The most capable FLS on the market, with object detection in the water column out to 1500m and 2D/3D profiling out to 600m, down to 100m depth.

Vigilant's unique patented technology is capable of depth finding at ranges ahead of your vessel in excess of 20 times the prevailing water depth

With automated warnings and exceptional high-resolution realtime 3D mapping, Vigilant allows your crew to navigate confidently. It gives them time to react to underwater hazards, reducing the risk of collisions and groundings. With a compact design and ability to integrate with existing bridge systems, it's suitable for installation on new builds or retrofitted to vessels in the commercial, military, cruise, exploration and private sectors.

Wavefront has used decades of targeted engineering experience to develop an unrivaled world-leading forward looking sonar solution.

#### Unmatched performance in Navigation and Obstacle Avoidance

Vigilant FLS is a long-range sonar solution for all types of maritime vessels. It offers high-resolution 3D mapping of the water column up to 600m ahead and crystalclear bathymetric imaging of the entire seabed around your vessel. With automated alarms and alerts, configurable based on Under Keel Clearance (UKC) requirements, delivered, in real-time, Vigilant FLS can be used in poorly charted waters and in busy coastal waters, harbours and ports.

Our world-leading sonar solution allows you to navigate safely through poorly charted and dynamic waters by giving crews time to react to upcoming hazards.

#### Range

Long range 1500m obstacle detection and 3D bathymetry mapping up to 600m.

#### Intuitive

It informs the user of potential danger through automatic alarms and easy to read 3D real-time mapping, colour coded to indicate depth and obstacles.

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Easily interpreted 3D

Object detection out to 1500m, 2D/3D profiling out to 600m, down to 100m depth

real-time seabed maps

Mounting options for newbuild or retrofit, including autonomous, un-manned and manned vehicles

Performance at high speed to detect underwater hazards



Automatic hazard warning alarms



In water column detection for obstacles such as ice, containers and mega-fauna



Separate processor and arrays to allow for custom integrations



**Electronically 'steerable'** beam over 120° FOV



Clear seabed profile shown in dedicated display



User defined warnings and alerts for UKC and range

## Vigilant FLS Sonar Mode

In Sonar mode, Vigilant shows long range sonar return intensities. Good for open water navigation to detect any objects in the water.

## Vigilant FLS Family



Combined Receiver / Tranmsmitter HxWxL -Weight in Air/Water

• Long range hazard detection, high resolution seabed mapping.

Why Invest

- Real-time determination of seabed terrain and underwater hazards.
- Simple, clear display for the crew.
- Historical data provides situational awareness.
- ENC, NOAA chart & ECDIS integration.
- Overlay charts give clear context.
- Suitable for manned & unmanned surface & subsurface vessels.

#### System Setup

- Easy installation and in-house design engineer support available.
- Field Engineers available to commission on site.
- Simple Ethernet output for integration.
- On board and onsite training.

#### Support

- 24/7 support helpline.
- Access to our engineering team to remedy any issues remotely.

3D Depth

• Extended warranty and maintenance support packages to ensure customers receive the best performance from Vigilant throughout the product's lifetime. **1.** Typical Vigilant Installation on the bow of a 145m vessel.

**2.** Ideal for XLUUVs. This is Vigilant on MSubs S201 part of the DASA XLUUV program.

**3.** Vigilant 1500, suitable for larger vessels with a 600m detection range and Real-Time 3D Seabed and Water Column mapping. 4. Vigilant 1000, with a smaller footprint, still providing 600m detection range and Real-Time 3D Seabed and Water Column mapping.

5. Vigilant 600 features a combined projector/ receiver design for applications where space is limited.



#### Vigilant 600 FLS

5 – 600 m x 120° 2D/3D Pepth Mode 5 – 1000 m x 120° Sonar Mode	75 – 600 m x 120° 2D/3D Depth Mode 75 – 600 m x 120° Sonar Mode
p to 25 knots	Up to 25 knots
0 kHz	120 kHz
p to 12 x water depth	Up to 20 x water depth
00 m	100 m
/- 20°	+/- 20°
0.3°	~0.3°
150 Watts	<150 Watts
2 to 40°C	-2 to 40°C
0 x 310 x 400.5 mm - 5.0/4.0 kg	-
46.5 x 118 x 115.6 mm - 3/0.8 kg	-
	90m depth rated - 300 x 270 mm dia 15.0 kg WIA 600m depth rated - 300 x 270 mm dia 20.0 kg WIA



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## **Contact Us**

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