



# FUGRO

## BLUE SHADOW

Fugro's Blue Shadow incorporates industry-leading experience to establish the next generation of uncrewed surface vehicles (USVs) for hydrographic and geophysical surveys. Specifically engineered for more efficient, flexible and safer operations in both coastal and offshore environments, the Blue Shadow exceeds all national hydrographic surveying exclusive order standards.

### HIGH EFFICIENCY

Fugro's Blue Shadow brings more efficiency to hydrographic and geophysical surveying. Its compact, wave-piercing design and structural stability ensure greater weather tolerance, enabling the vehicle to operate in high-sea conditions for multiple days without interruption. Combined with Fugro's smart data management software, the speed and endurance of the Blue Shadow reduces risk and accelerates project delivery.

### MAXIMUM FLEXIBILITY

The Blue Shadow is equipped with a state-of-the-art EM2040-4 Mk II and an AML moving vessel profiler and is designed

to operate in full autonomy, semi-autonomy or by remote control. It can be configured with other payloads to meet different operational needs and is suited to operate as a force multiplier with a mother vessel (with one or more USVs) to increase data collection efficiency.

### SUSTAINABLE AND SAFER OPERATIONS

As an uncrewed vehicle, Blue Shadow eliminates the risks associated with human involvement in offshore surveys. It provides sustainable operations through significantly reduced fuel consumption and carbon footprint.

### BENEFITS

- Faster collection of high-quality data using its wave piercing design and gondola mounted sensors
- Reduced HSSE exposure through minimised offshore staffing
- Sustainable operations with significantly reduced fuel consumption and carbon footprint

# FUGRO BLUE SHADOW

## Technical Specifications

### General

Name	Blue Shadow
Designer/builder	Fugro and L3 Technologies
Owner	Fugro

### Dimensions

LOA	8.85 m
Beam	1.77 m
Draft	1.21/2.00 m (Gondola up/down)

### Propulsion

Engine	80 hp diesel engine
Cruising/survey speed	8 knots/variable as required

### Control and navigation

Fully autonomous, semi-autonomous, direct remote-control options	
DGPS	Fugro G4+
Gyro	Seapath 380-R3

### Safety

Radar	Simrad
Additional	Emergency anchor

### Survey equipment

DGPS positioning	Fugro G4+
Navigation package	Fugro Starfix Suite
Motion reference unit	MGC-R3 (within Seapath 380-R3)
Multi Beam Echo Sounder (MBES)	Kongsberg EM2040-04 Mk II
Echo sounder (SBES)	Teledyne Echotrac E20
Sound velocity profiler	AML MVP30
Sound velocity (at head)	Valeport UV-SVP

## FEATURES

- Wave-piercing hull design: improved sea-keeping and a stable configuration for high-quality data acquisition
- Gondola-mounted sensors: best possible hydrographic data acquisition, as low acoustic interference means improved data quality
- Robust hull design: fenders in critical locations reduces downtime risk from hull damage
- Maximised situational awareness: radar, weather station and 360° camera (including infrared)
- Vessel-control software with autonomous obstacle avoidance capability and radar repeater
- Robust and simple launch-and-recovery solution, both from single point as well as via A-frame.

