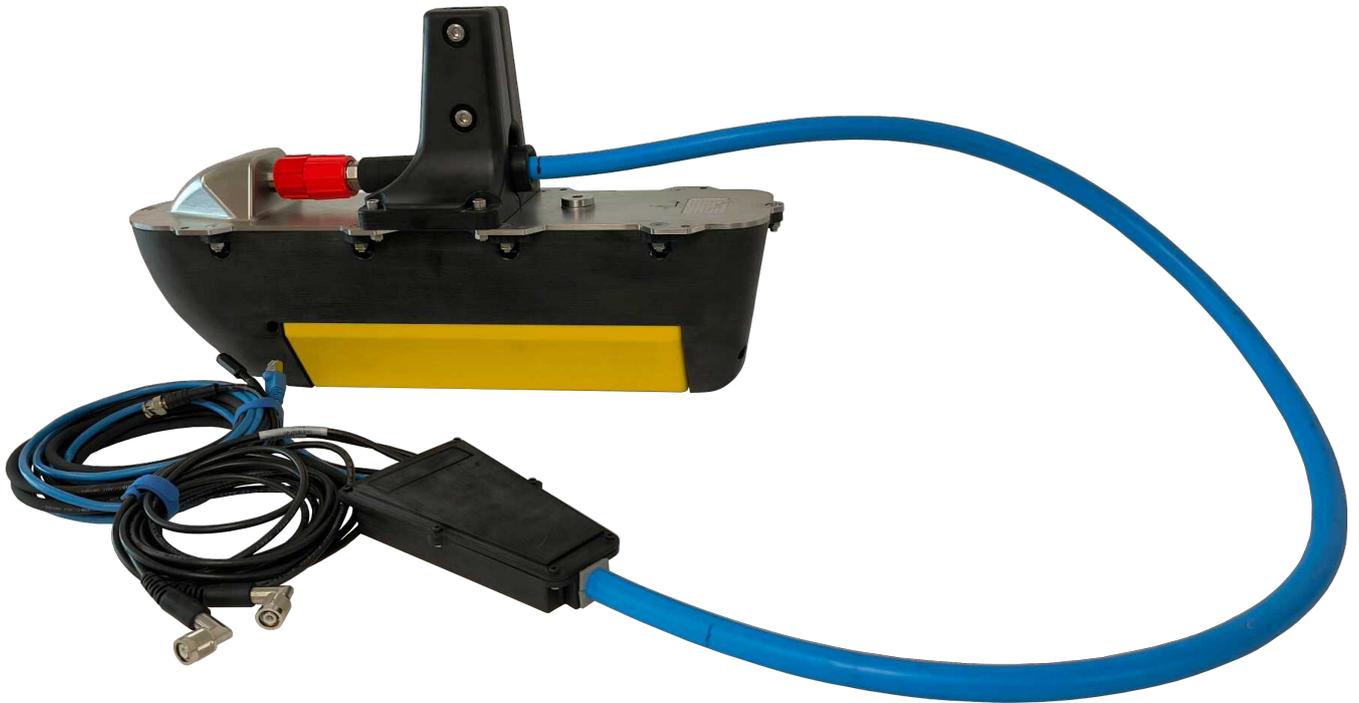




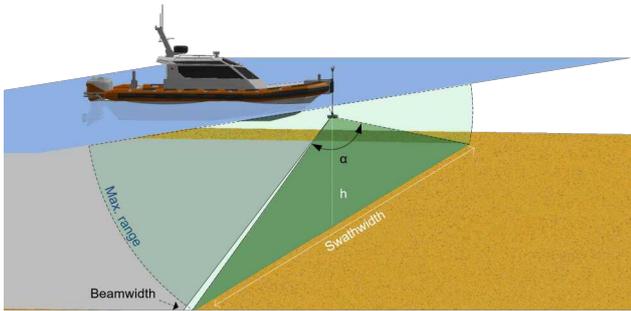
[www.iter-systems.com](http://www.iter-systems.com)



# Bathyswath-3 SIGMA (B3S)

B3S "all-in-one" system (embedded SVS, GNSS board, INS and sonar electronics)

# WIDE SWATH BATHYMETRY



**Max. slant range**  
 > 200 m (250 kHz) and >70 m (450 kHz)

**Swath angle ( $\alpha$ )**  
 - 250 kHz : Up to 175° in 15m waterdepth (h), 160° in 40m and 130° in 90m.  
 - 450 kHz : Up to 175° in 5m waterdepth (h), 160° in 15m and 130° in 30m.

**Swathwidth vs waterdepth (h)**  
 - 250 kHz: Up to 30 x waterdepth in 15m, 10 times in 40m and 4 in 90m.  
 - 450 kHz: Up to 30 x waterdepth in 5m, 10 times in 15m and 4 in 30m.

# 4 POD TRANSDUCER POSSIBILITIES



Same size **316x110x68 mm** for all three transducers

## 250 kHz

- Single frequency
- 2.0 kg

## 250 - 850 kHz

- Double frequency
- 2.1 kg

## 450 kHz

- Single frequency
- 2.0 kg

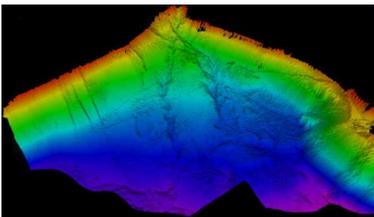


**200x110x50 mm**

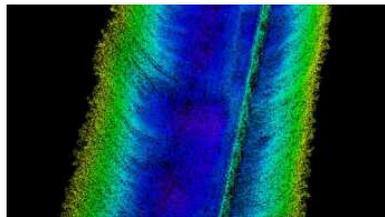
## 450 kHz (short)

- Single frequency
- 1.3 kg

# 2 TYPES OF DATA



3D Bathymetric data (xyz)



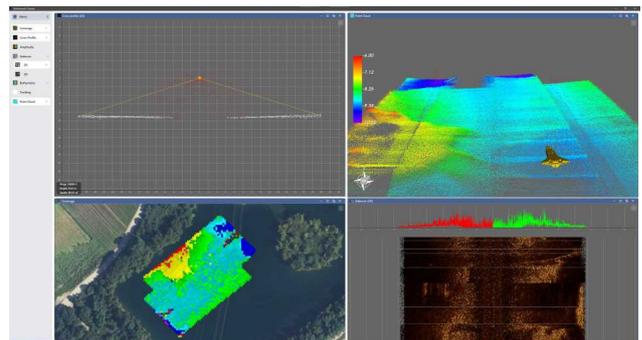
Sidescan images

# SOFTWARE INCLUDED IN THE PACKAGE



Software, 3D bathymetry & sidescan data

- Fully-functional survey software (for sonar, position, sound velocity and motion data acquisition) and post-processing software (for 3D rendering and digital terrain models),
- Bathyswath sonar is also compatible with most usual commercial software packages.



# EMBEDDED OPTIONAL DEVICES<sup>(1)</sup>

## Combined GNSS/INS positioning & motion solutions



**Quanta Plus**  
(SBG Systems)  
- Septentrio GNSS (w/ PPP)  
- Advanced INS



**BD 992-INS<sup>(2)</sup>**  
(Trimble)  
- Trimble BD992 GNSS  
- BasicINS



**Quanta Micro<sup>(2)</sup>**  
(SBG Systems)  
- U-blox GNSS w/o PPP  
- BasicINS

## Sound Velocity sensor



**MiniSVS<sup>(3)</sup>**  
(Valeport)

(1) : Click on the image for a direct link to the technical specifications

(2) : Not ideal for surveys in rough waters

(3) : An SVS improves survey quality. A Sound Velocity Profiler (SVP) is essential where there are different water layers.

# TECHNICAL SPECIFICATIONS

	Single frequency	Single frequency	Double frequency	
Frequencies	250 kHz	450 kHz	250 kHz	850 kHz
Operational slant range	> 200 m	> 70 m	> 200 m	> 15 m
Horizontal beam width (two-way)	< 0.8°	<0.4° or < 0.7° <sup>(1)</sup>	< 0.8°	< 0.3°
Spatial resolution limit	≈2.9 mm	≈1.5 mm	≈2.9 mm	≈1.0 mm

(1) : 0.4° for the long version of the 450 kHz transducer and 0.7° for the short one

- B3S overall dimensions : 525 (L) x 138 (W) x 224 (H) mm - Weight in air is only **7 kg**.
- USV overall dimensions (excl. antennas) : 1130 (L) x 850 (W) x 250 (H) mm, **25 kg** (sonar and batteries included)
- Housing pressure depth rating : 10 m
- Wideband (chirp) sonar technology
- Low power consumption (20 W)

# PARTS BREAKDOWN

Power, Ethernet, GNSS ant. #1 and GNSS ant. #2

Pole foot for 30mm square tube

Power, data preprocessing & communication board

INS + GNSS board

Sonar electronics

SVS board  
SVS sensor

450 kHz pod transducer

Housing  
316L stainless steel & POM



USV

B3S "plug and play"

B3S "all-in-one" system

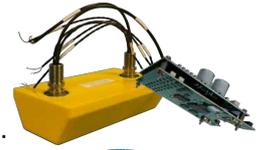
B3S USV system

## OTHER PACKAGE OPTIONS



### Bathyswath-3 OEM

Sonar electronics and transducers for integration inside clients' systems or vehicles (e. g. AUV, USV, etc.).



### DONUT Surveyor

Permanently installed autonomous system for frequent circular data acquisition near a critical area.



## FROM A TO Z



Sonar systems engineering.



Training on client's site or on lake in front of our premises.



Software development for our own products or for new interfaces with customers systems.



Remote technical support.

## MOST OF OUR CUSTOMERS ARE



Marine services



Research



Natural resources



Archeology

### Bathyswath is a brand of the company ITER Systems

ITER Systems is one of the world's most experienced team of developers of interferometric sonars. Its products are direct descendants of the world's first commercially available interferometric swath sonar system. ITER Systems provides innovation and quality products at an affordable price.

#### ITER Systems

3 rue du lac du Mont Cenis  
Savoie Technolac  
73290 La Motte-Servolex, France  
Phone : + 33 972 457 330  
sales@iter-systems.com  
www.iter-systems.com

