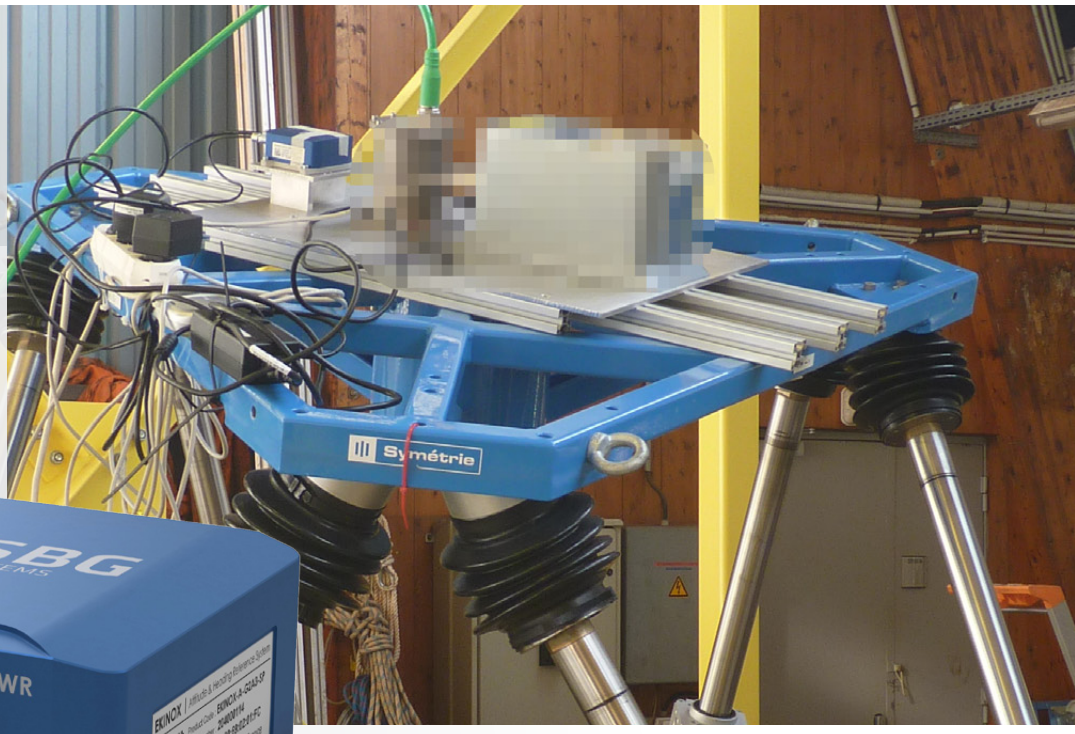
Ekinox Test Results

TEST ENVIRONMENT

MARINE

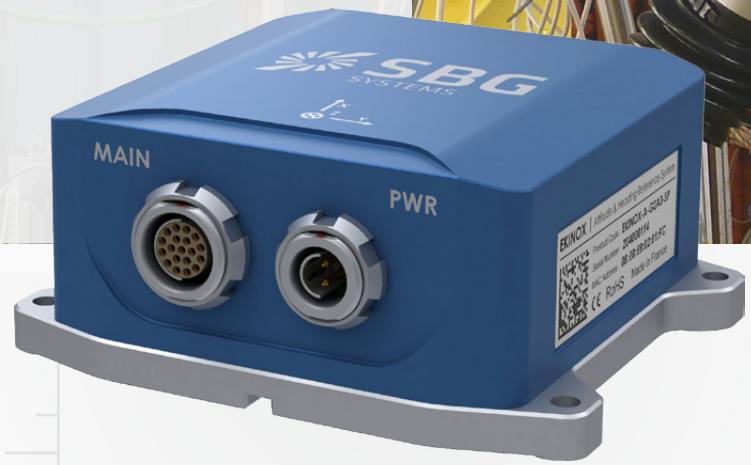


PRODUCT ON TEST

Ekinox Series

Ekinox-A

Motion Sensor



TEST CONDITIONS

TESTED PRODUCTS
Ekinox-A Motion Sensor

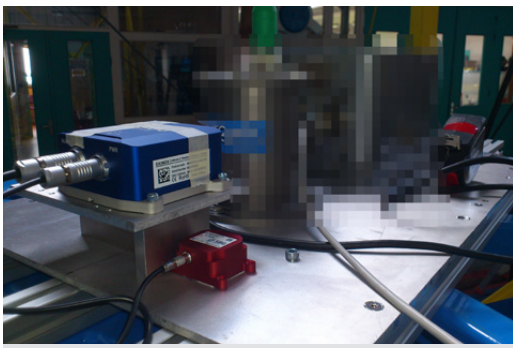
TESTED PERFORMANCE
Heave, Roll, and Pitch

PLACE
Brest (France) at the IFREMER Institute

CONDITIONS
Sea conditions simulated on a Hexapod

The test session simulated a complete 6 degrees of freedom (DOF). The hexapod reproduced various sea conditions while providing accurate reference data. A wide range of heave frequencies and amplitudes have been initiated as well as periods in the range of 5 to 12 s.

The test included eight sessions of five minutes tests and an additional fifteen minutes test to check longer operation periods.



MOUNTING ON THE HEXAPOD

All tested sensors were mechanically strapped on the Hexapod platform which provides accurate 6 degrees of freedom.

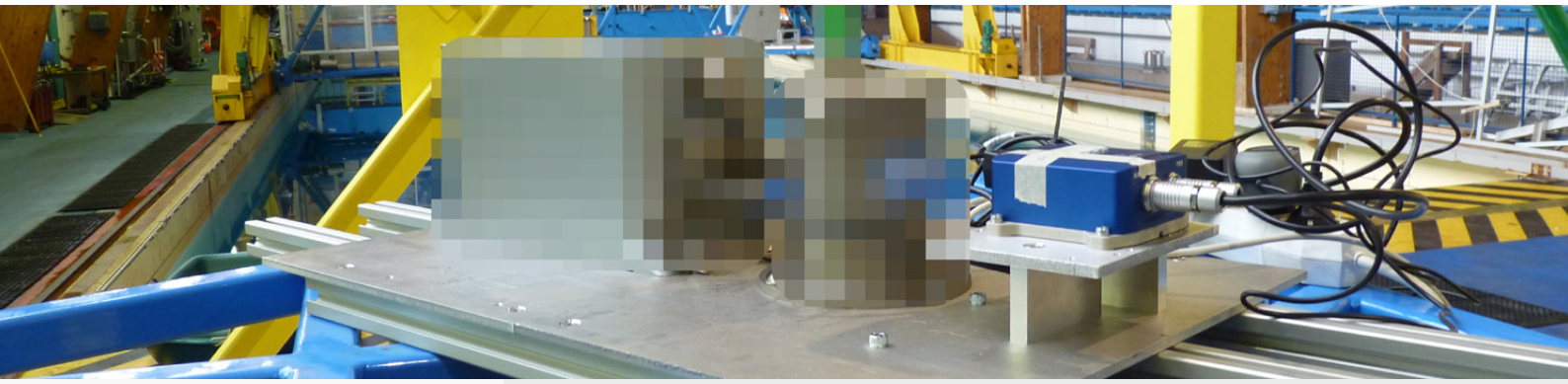
Precision alignment ensured a 0.1° alignment accuracy on roll and pitch angles.

FULL REPORT : Send an email to contact@sbg-systems.com to receive the complete version of this test.

Special thanks to IFREMER Institute and Mr. Pierre Merriaux (IRSEEM and ESIGELEC) who conducted this performance test.

SBG SYSTEMS

TEST RESULTS



Overall Results

ACCURACY

	Roll	Pitch	Heave
RMS Error	0.028	0.032	2.3

RMS errors above represent the mean error obtained during the whole fifteen minutes test session.

ROLL, PITCH

A 0.03° RMS accuracy is obtained in roll/pitch angles. This performance level gives a good confidence in reaching the specified 0.05° accuracy under more challenging environments such as rough sea state or vibrating environments.

HEAVE

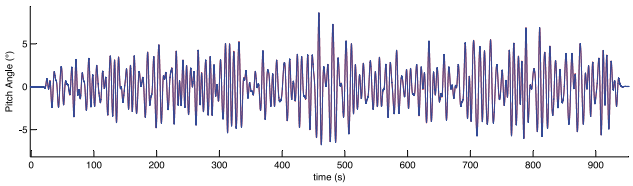
The 5 cm or 5% specification is also reached with a comfortable margin, with less than 2 cm RMS error. Automatic heave period computation ensures that the Ekinox heave filter is always correctly tuned.

Detailed Results

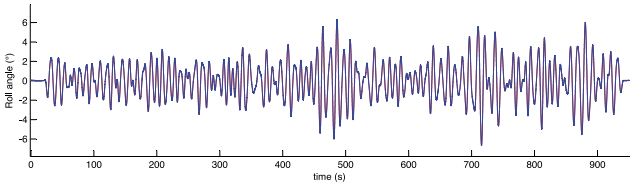
The Hexapod accuracy is much higher than the Ekinox-A. It has been used as a reference for this test.

Hexapod Ekinox-A

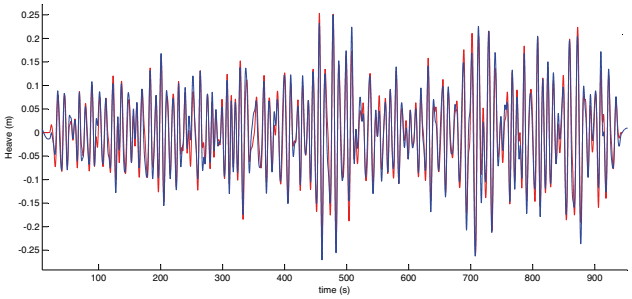
PITCH



ROLL



HEAVE



Heave Performance can be further improved with GPS Aiding. *The whole test was performed in "Vertical Gyro" mode, where only a vertical reference is used to stabilize the attitude. In case of harsh environments, a GPS aiding can be used to improve orientation and heave accuracy, even during long term turns or accelerations, and high amplitude swell conditions.*

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