

SeaSPY

Towed Overhauser Magnetometer

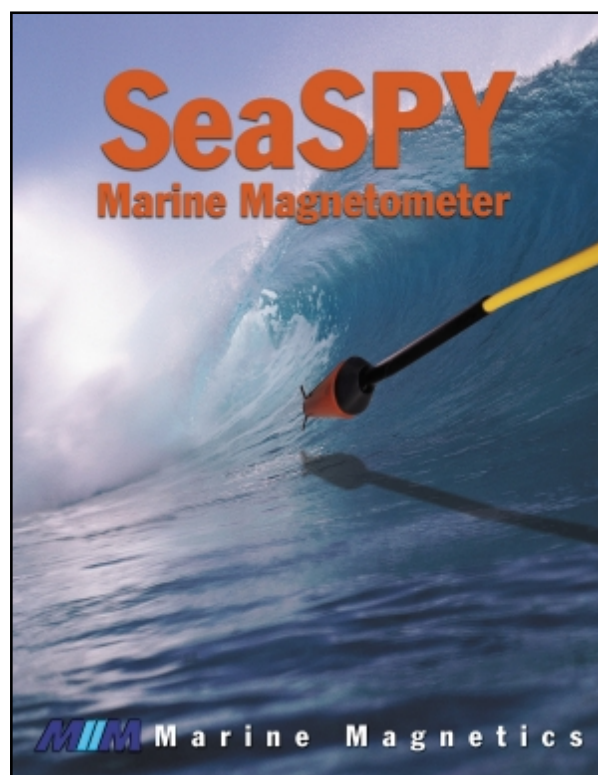
Manufactured By: Marine Magnetics Corporation

All SeaSPY fish take advantage of a unique quantum principle known as the Overhauser effect. This effect gives you the ability to polarize the sensor with a low power, high frequency magnetic field instead of a high power DC magnetic field.

SeaSPY has several advantages over conventional proton magnetometers. It measures the magnetic field while polarizing, retains maximum sensitivity at sample rates of up to 1 Hz, and delivers over an order of magnitude better precision. The SeaSPY is a low power instrument requiring only one watt in standby and three watts maximum while operating.

The SeaSPY consists of an FSK transceiver, a tow cable, and at least one fish that contains an electronics module and an Overhauser sensor. All parts of the system are modularized for quick and easy repair. This means that if there is a failure in the field, a replacement module will be sent to the site. SeaSPY fish contain digitizing electronics inside the housing, providing for strong signals with the least amount of exterior noise.

All SeaSPY fish are also interchangeable, making it easy to add gradiometer configurations at anytime, without the need for custom work. Standard SeaSPY fish are pressurized for 300m. For deep surveys, SeaSPY is available with the deep tow option, pressurized to 6000m.



The above photo shows the Marine Magnetics SeaSPY System.

Features:

- Enhanced with Overhauser effect
 - Highly efficient, with only a fraction of the power required with standard proton sensors
 - High absolute accuracy, with no existing heading error
 - Sensitivity comparable to a cesium sensor, between one and two orders of magnitude better than a standard proton sensor
 - Capable of being towed from the seismic gun array
 - Interchangeable modules, making repair and replacement fast and easy
- Sampling:**
- Faster sampling at maximum sensitivity, with sampling rates from 0.25 sec. to 10 sec.

Diagnostics:

- Upgradeable modules, with the ability to add gradiometer configurations at any time
- Digitizing electronics contained in one housing, close to the sensor, with minimum outside noise

Reliability:

- Rugged connector system
- Strong, lightweight tow cable
- Strong Fibreglass housing
- Deep tow option, pressurized to 6000m

Technical Specifications

Performance:

Resolution:	0.001 nT
Sensitivity:	0.015 nT
Dead Zone:	NONE
Heading Error:	NONE
Temperature Drift:	NONE
Timebase Stability:	1ppm
Absolute Accuracy:	0.2 nT
Range:	18,000 to 120,000 nT
Gradient Tolerance:	Over 10,000 nT/m
Sampling Rates:	0.1Hz to 4Hz
External Trigger:	by RS-232
Communications:	RS-232, 9600bps

Operating Parameters:

Power Consumption:	1W stdby. 3W max
Operating Temp:	-45°C to +60°C
Power Supply:	15VDC - 35VDC

Fish Dimensions:

Fish Size:	125 cm length 12.7 cm diameter
Fish Weight:	16kg
Weight in Seawater:	2kg

Tow Cable Dimensions:

Cable Size:	0.75 in OD
Strength Member:	Vectran braid
Breaking Strength:	> 6000 lb.
Standard Length:	250m

Other Sensors:

Pressure Sensor:	300 m max, 0.1 m step
Temp Sensor:	-45°C to 60°C, 0.1°C step
Depth Sounder:	500 m max, 0.25 m step

Specifications provided by Marine Magnetics Corp. and are subject to change without notice.

FUGRO-LCT INC.
6100 Hillcroft, 5th Floor (77081)
P.O. Box 740010
Houston, Texas 77274, U.S.A.
Tel: 713-272-5400
Fax: 713-272-5410
E-mail: info@lct.com

Web site: www.lct.com
FUGRO-LCT Technical Center
6080 Hooten
Houston, Texas 77081, U.S.A.
Tel: 713-2723-5471
Fax: 713-272-5409

FUGRO-LCT Limited
5 Newmarket Court
Kingston, Milton Keynes, England MK10 0AG
Tel: +44 (0) 1908-286100
Fax: +44 (0) 1908-286101
E-mail: staff@fugro-lct.co.uk