Technical Data Sheet

Sea^{16} Sulfur Analyzer for Marine

A portable and robust sulfur analyzer for Marine. Ensure Sulfur Compliance for IMO 2020 & ECAs

Sea^{16} provides you with many distinct benefits:

- Robust design for maritime environment
- Onboard, offshore, or on-land testing
- Portable with built-in battery
- Minimum sample preparation with sample bottle
- Advanced detector to ensure long-term stability
- Trusted precision with lab-quality results
- Robust calibration with one curve covering whole range
- Complies with ISO 8754 and ASTM D4294

Rapid Sulfur Testing with Sea^{16}

Sea^{16} delivers rapid and precise sulfur testing with a limit of detection as low as 0.0050% - well below the new regulatory limits. To ensure lab-quality results and compliance with methods approved for marine-fuel testing (covered under ISO 8217), Sea^{16} is compliant with ISO 8754 and ASTM D4294 in the concentration range of 0.01%-5%.

To demonstrate the precision of Sea^{16}, an application study was conducted using three mineral oil samples with sulfur concentrations close to the expected levels in various types of marine fuel. Results are shown in **Table 1**.

Table 1: Sea^{16} Study Results

Repeat	450 ppm	0.1%	0.5%
1	455.5	0.099	0.500
2	472.9	0.101	0.494
3	452.7	0.101	0.502
4	464.6	0.100	0.496
5	463.5	0.100	0.499
6	468.4	0.101	0.501
7	454.7	0.099	0.498
8	461.1	0.098	0.502
9	460.0	0.101	0.496
10	465.5	0.100	0.497
Average	461.9	0.100	0.498
Standard Deviation	6.4	0.001	0.003
RSD%	1.4%	1%	0.6%

Easy-to-use and Robust Design

Sea^{16} was designed to provide reliable, rapid, and robust sulfur analysis, with an innovative sample carrier that is compatible with both sample bottle and sample cup. The sample is inserted with the sample window vertical, ensuring that any accidental sample leak goes into a drip tray which could be simply removed and cleaned. If desired, sample preparation is as easy as replacing the sample bottle cap with Z-cap with built-in thin film. This analyzer can be operated by a crew member with minimal training, in some cases less than 15 minutes.

Sea ^{16} Technical Specifications

Dynamic Range & Applications		
Sea^{16}	Dynamic Range	Sulfur 16 ppm – 5 wt%
	Applications	Sulfur in Marine fuel

Sea^{16} Specifications	
Method Compliance	ASTM D4294 & ISO 8754
Measurement Time	30-900 seconds
Calibration	- 30 Linear calibration curves (automatic customer calibration available)
Sample Cup	Volume 10 mL in conjunction with Mylar thin film 6 um
Sample Bottle	Volume 25 mL to be used with ready to use Z-Cap with built in film
Data Output	Printout, USB, and Ethernet to PC connection
I/O Ports	Ethernet 10/100, USB
AC Power Supply	110-240 VAC ± 10%, 50-60 Hz (hertz)
Battery Power	98 Wh for >4 hours continuous operation
Operating Voltage	0-20 kV
Operating Current	0-0.5 mA
Operating Temperature	5°C to 40°C (41°F to 104°F)
Operating Humidity	30 – 85 %
Weight	16 lbs (7.2 kg)
Dimensions	23 cm W x 30 cm L x 26 cm H 

Z-Spec – XOS Joint Effort

15 Tech Valley Drive Suite 110

East Greenbush, New York 12061 USA

P: 518.977.3876 info@zspecinc.com zspecinc.com

15 Tech Valley Drive

East Greenbush, New York 12061 USA

P: 518.880.1500 info@xos.com xos.com