

## XRF Sulfur Analyser

**CMTs XRF Analysers can measure the concentration of different elements within the oil. We offer one analyser for sulfur only and a second for multiple elements like P, Cl, K, Ca, V, Cr, Mn, Fe, Co, Ni, Cu and Zn.**

The analysers are powered by High Definition X-Ray Fluorescence (HDXRF®) technology: an elemental analysis technique offering significantly enhanced detection performance over traditional XRF technology. This technique applies state-of-the-art monochromating and focusing optics, enabling dramatically higher signal-to-background ratio compared to traditional polychromatic X-Ray fluorescence.

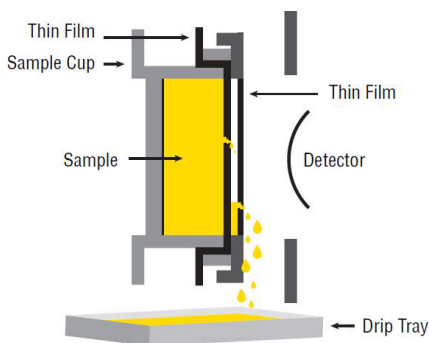


Fig. 1

Petroleum laboratories depend on reliable, robust analytical solutions for their fast-paced environment. The analysers were designed to meet these needs with an innovative sample introduction system that directs accidental spills to a drip tray and away from valuable components.

The analysers comply with ASTM D4294 and ISO 8754 for sulfur analysis of hydrocarbons like crude oil, diesel, gasoline, jet fuel, and lubricants. The Sulfur Analyser delivers precise sulfur analysis with limits of detection as low as 2,6 ppm. The Multi Element Analyser delivers sulfur measurements with a limit of detection as low as 5,7 ppm with rapid monitoring of critical elements like Ni, V, and Fe at sub-ppm levels.

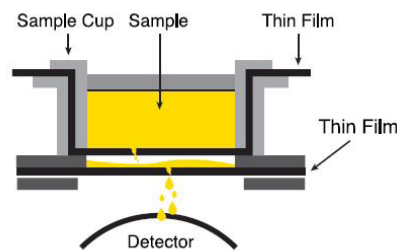


Fig. 2

The figures 1 and 2 compare the sample chamber of the XRF Analyser with the one from most competitors.

A sample is placed into the XRF Analyser sample chamber and when closed, it is turned on its side. This innovative design ensures that any accidental sample leaks are directed to a drip tray - to be easily removed and disposed.

Most competitor sample chamber designs offer a thin film covering the cell window to protect the detector and X-ray tube from accidental sample leaks.

If this thin film tears, the sample will leak onto the detector and X-ray tube - a very costly repair.

### Your benefits:

- Measure Sulphur in fuel onboard to ensure compliance with regulations.
- Monitor the wear patterns of your engines.
- Higher signal-to-background ratio compared to traditional XRF technology.
- Improved precision.
- Drip tray to prevent sample leakage.
- Lightweight, robust design for perfect use on board.
- Onsite laboratory grade results.
- Direct comparison possible between results obtained onboard and the lab onshore.

### Ordering Information

OTK-CT-11226

#### HDXRF Sulfur Analyser

Elements: S

Range: 2,6 ppm -10 wt%

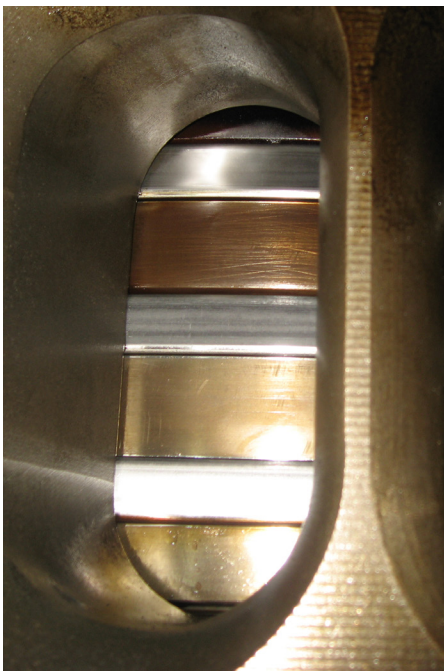
## Multi Element Analyser

The Multi Element Analyser is a valuable tool to monitor the wear content of Scrapedown oil of 2-stroke Marine Diesel engines.

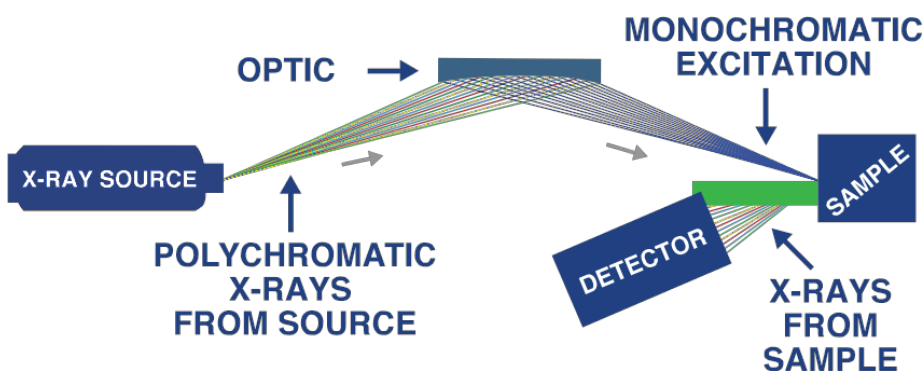
The quick display of the result together with easy handling ensures the crew onboard stays in control of the wear of their engine.

The analyser supplies a quick wear feedback when the crew adjusts the feed rate and will identify impending damages of engine and liner components.

Having a XRF Multi Element Analyser onboard provides the crew with laboratory grade results.



	HDXRF Sulfur Analyser	HDXRF Multi Element
Measured elements	S	S, P, Cl, K, Ca, V, Cr, Mn, Fe, Co, Ni, Cu, Zn
Range (S)	2,6 ppm -10 wt%	5,7 -10 wt%
Other Ranges (x ppm - 10 wt%)	/	P : 17, Cl : 3, K : 0,7, Ca : 0,4, V : 0,1, Cr : 0,09, Mn : 0,07, Fe : 0,07, Co : 0,07, Ni :0,04, Cu : 0,1 , Zn : 0,1
Measure time	30 - 900 seconds	
Calibration	30 different calibration curves	
Sample volume	7 ml	
Connections	USB, Ethernet	
Dimensions	36,8 cm x 41,9 cm x 15,3 cm	12,7 kg
Operating temp.	5 °C - 40 °C	
Operating humidity	30 - 85 %	



The graphic above shows the basic configuration of HDXRF and its use of focused monochromatic excitation. HDXRF reduces background noise and improves signal definition that enables lower limits of detection and dramatically better precision.

### Ordering Information

OTK-CT-11225

#### HDXRF Multi Element Analyser

Elements: S, P, Cl, K, Ca, V, Cr, Mn, Fe, Co, Ni, Cu, Zn

Range (S): 5,7 -10 wt%