

# better analysis counts

# **HD** Maxine



## **Trace Metal Analysis in Hydrocarbons**

HD Maxine assures precise determination of trace metals in crudes, lubricants and used oils without extensive sample preparation or expensive consumables. The analyzer enables the direct analysis of metals from Phosphorus to Lead, at unprecedented detection limits in a robust analyzer configuration designed to perform in demanding petroleum and industrial environments. Plug it in and measure. Results with one touch. Unrivaled precision.

## **Application Areas:**

- Contaminants, Additives, Wear Metals.
- Refineries, Lubricant Plants, Engine Service Centers.
- Crudes and downstream hydrocarbons, lubricants and used oil.
- Elements: S, Cl, P, K, Ca, V, Mn, Fe, Co, Ni, Cu, Zn, Hg, As, Pb, Se.

#### **Features and Benefits:**

- Fits on any bench.
- Plug-it-in and measure: no additional utilities required.
- Touch Screen user interface.
- Utilizes ACCU-CELL pre-assembled and pre-vented sample cups for enhanced precision, extreme ease-of-use and enhanced productivity.
- User programmable measurement time: 30-900 s.
- No sample dilution, conversion gasses, heating elements, quartz tubes or columns.
- Air-cooled excitation tube.
- Robust polyamide window for easy cleaning.

#### **Options:**

- 8 cell Autosampler.
- LIMS data output software capability.
- Ink-jet Printer output.

HDXRF

**High Definition X-Ray Fluorescence (HD XRF)** is a multi-element analysis technique offering significantly enhanced detection performance over traditional ED or WD XRF. This technique applies state-of-the-art monochromating and focusing optics, enabling multiple select-energy excitation beams that efficiently excite a broad range of target elements in the sample. Mono-chromatic excitation dramatically reduces scattering background under the fluorescence peaks, greatly enhancing elemental detection limits and precision. HDXRF is a direct measurement technique and does not require consumables or special sample preparation.





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- Increases productivity
- Utilitizes XOS Accu-Cell cups



**Product Specifications** 

Facility AC Power requirements

Analysis Range

Tube voltage

Tube current

User Interface

**Measurement Time** 

**Ambient Temperature** 

**Power Consumption** 

Analyzer dimensions Analyzer weight

Sample cell volume

## ACCU-CELL Sample Cups

- No assembly of separate film & cup components
- Pre-vented sample cups

Up to 5000 ppm

90-264 VAC, 47-63 Hz

41 cm (h) x 39 cm (w) x 53 cm (d)

300 s or 600 s

5-35° C

20-50 kV 0.2 – 2 mA

200 w Max.

**Touch Screen** 

23 kg

1 ml

- Eliminates sample & cup contamination
- One discharge of 1 ml pipette will fill the cup



#### **Target Elements and Detection Limits**

Element	LOD (ppm) (300s)	LOD (ppm) (600s)
Phosphorous (P)	120	90
Sulfur (S)	60	40
Chlorine (Cl)	40	30
Potassium (K)	30	22
Calcium (Ca)	20	14
Vanadium (V)	1.0	0.7
Manganese (Mn)	1.0	0.7
Iron (Fe)	1.0	0.7
Cobalt (Co)	0.52	0.40
Nickel (Ni)	0.4	0.28
Copper (Cu)	0.2	0.14
Zinc (Zn)	0.2	0.14
Mercury (Hg)	0.12	0.08
Arsenic (As)	0.08	0.06
Lead (Pb)	0.1	0.08
Selenium (Se)	0.08	0.06



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