better analysis counts

# Clora M-SERIES

Chlorine Analyzer


## Chlorine Analysis in Liquid Hydrocarbons, Aqueous Solutions and Catalyst

The Clora Bench-Top analyzer is a compact Chlorine analyzer, designed for use with liquid hydrocarbons such as aromatics, distillates, heavy fuels and crude oils, as well as aqueous solutions. The analyzer delivers unprecedented accuracy and precision for petroleum and petrochemical applications where ease-of-use, reliability and measurement speed are critical. Plug it in and measure. Results with one touch. Unrivaled precision.

## Application Areas:

- Total Chlorine analysis from aqueous solutions and aromatic products to heavy fuels, crudes and catalyst.
- For refineries, petrochemical and additive plants, pipeline terminals and test laboratories.

## Features and Benefits:

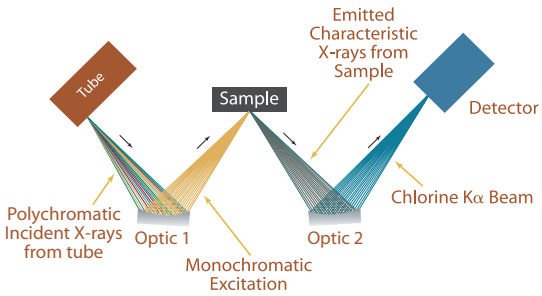
- LOD: 0.06 ppm wt. for aromatics.
- Dynamic range:
  - Standard: 0.06 ppm wt. up to 3000 ppm wt.
  - XR Package: 0.06 ppm wt. up to 4% wt.
- Fits on any bench, in any lab: 37 cm (w) x 50 cm (d) x 34 cm (h).
- Plug-it-in and measure. Standard wall power is only utility required.
- User-friendly with touch screen interface.
- User programmable measurement time: 30 -900 s
- Extremely low maintenance:
  - No conversion gasses
  - No columns
  - No heating elements
  - No quartz tubing
- Replaceable air-cooled x-ray tube.
- No sample conversion or combustible gasses required.
- Robust polyamide window for easy cleaning.

## Options:

- LIMS data output compatible software.
- Extended Range capability; 0.06 ppm up to 4%.

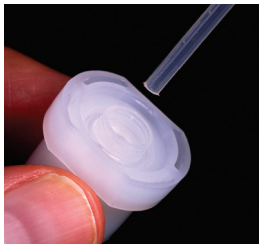
# MWD XRF

**Monochromatic Wavelength Dispersive X-Ray Fluorescence (MWD XRF)** utilizes state-of-the-art focusing and monochromating optics to increase excitation intensity and dramatically improve signal-to-background over high power traditional WD XRF instruments. This enables significantly improved detection limits and precision and a reduced sensitivity to matrix effects. A monochromatic and focused primary beam excites the sample and secondary characteristic fluorescence x-rays are emitted from the sample. A second monochromating optic selects the chlorine characteristic x-rays and directs these x-rays to the detector. MWD XRF is a direct measurement technique and does not require consumable gasses or sample conversion.




## SINDIE Autosampler

- 8 sample cell capacity
- Increases productivity
- Utilitizes XOS Accu-Cell cups



## ACCU-CELL Sample Cups

- No assembly of separate film & cup components
- Pre-vented sample cups
- Eliminates sample & cup contamination
- One discharge of 1 ml pipette will fill the cup

## Precision

Typical repeatability (r) and reproducibility (R) values, at 95% confidence. Measurement time: 600 s xylene, 300 s crude oil and water.

| | Xylene | | Crude Oil | | Water | |
|---|---|---|---|---|---|---|
| Chlorine (ppm) | r | R | Chlorine (ppm) | r | R | r | R |
| .05 | 0.15 | 0.27 | 5 | 0.4 | 0.7 | 0.6 | 1.0 |
| 1 | 0.17 | 0.29 | 10 | 0.8 | 1.4 | 1.0 | 1.5 |
| 5 | 0.31 | 0.53 | 50 | 1.2 | 2.0 | 1.5 | 2.5 |
| 10 | 0.50 | 0.90 | | | | | |

## Product Specifications

| | |
|---|---|
| **Test Method** | ASTM D7536 |
| **Dimensions** | 37 cm (w) x 50 cm (d) x 34 cm (h) |
| **Power** | 100-120 VAC, 47-63 HZ at 6.0 Amps/200-240 VAC, 47-63 HZ at 6.0 Amps |
| **Other Utilities** | None |
| **Sample Cup Volume** | 10ml |
| **Ambient Temperature Requirements** | 5-40° C (40-104° F) |
| **Dynamic Range** | 0.06 ppm–4% (wt.) |
| **Measurement** | 30-900 s |
| **X-Ray Tube Setting** | 50 kv @ 1.5 mA max |

XOS®

**better analysis counts**

**15 Tech Valley Drive • East Greenbush, New York 12061, USA • 518.880.1500 • Fax: 518.880.1510**
**e-mail: info@xos.com • website: www.xos.com**