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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.

Now Available with



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:

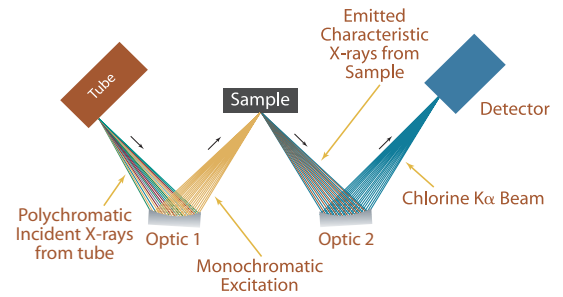
- LOD: 0.13 ppm wt. for hydrocarbons.
- Dynamic range:
 - Standard: 0.13 ppm wt. up to 3000 ppm wt.
 - XR Package: 0.13 ppm wt. up to 4% wt.
- Fits on any bench, in any lab: 37 cm (w) x 50 cm (d) x 34 cm (h).
- Plug-it-in and measure. Standard wall power is only utility required.
- User-friendly with 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 polyimide window for easy cleaning.

Options:

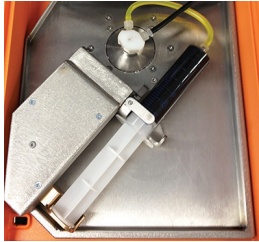
- LIMS data output compatible software.
- Extended Range capability.
- Catalyst testing capability.
- Autosampler (cannot be combined with Accu-Flow)
- Accu-Cell sample basket

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.



Now available with:



ACCU-FLOW Technology

- Eliminates particulate settling effects
- Simplified design, optimized for everyday use
- Available add-on for all M-series analyzers

– or –



Clora Autosampler

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

Precision

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

Chlorine (ppm)	Xylene		Chlorine (ppm)	Crude Oil		Chlorine (ppm)	Water	
	r	R		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	0.13 ppm–4% ppm (wt.)
Measurement	30-900 s
X-Ray Tube Setting	50 kv @ 1.5 mA max



better analysis counts

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