Analyze Total Chlorine with Unparalleled Precision and Ease of Use

The Clora® measures total chlorine in hydrocarbons such as aromatics, distillates, heavy fuels, crude oils, and water.

This state-of-the-art technology complies with ASTM D7536 and D4929C and delivers unparalleled accuracy and precision for petroleum and petrochemical applications where simple, quick, and reliable analysis is critical.*

APPLICATIONS

- Total chlorine analysis in petroleum products, biofuels, aromatics and other chemicals, and water
- For refineries, petrochemical and additive plants, pipeline terminals, and test laboratories

FEATURES AND BENEFITS

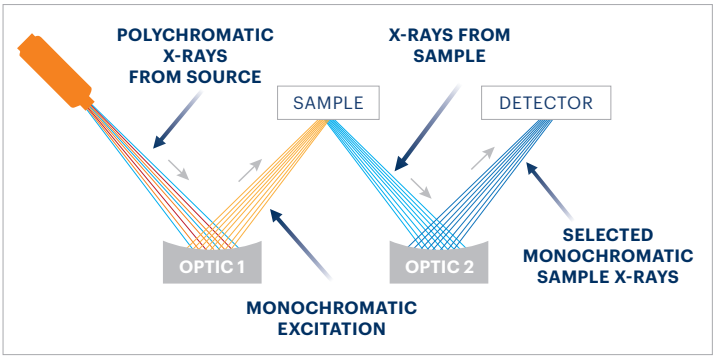
- **LOD:** 0.13 mg/kg (ppm) at 300s, 0.09 mg/kg (ppm) at 600s for hydrocarbons, 0.3 mg/kg (ppm) at 300s, 0.2 mg/kg (ppm) at 600s for aqueous samples**
- **Range:** 0.13 mg/kg (ppm) to 4 wt%
- Manual Sulfur Correction to correct for high Sulfur samples
- **Easy to use:**
  - Intuitive 10-inch touch screen
  - Just plug in and measure
  - Measurement time: 10-999 s
- **Low and high range calibrations available:**
  - **Low range:** 0.13 mg/kg (ppm) – 3000 mg/kg (ppm)
  - **High range:** 0.3 wt% – 4 wt%
- **Extremely low maintenance:** no gasses, heating elements, columns, or quartz tubing
- Traditional XRF sample cups or XOS Accucells – decided at time of order
- Small footprint
- LIMS integration for data management and transfer
- Preset favorites capability to save data entry time and minimize mistakes on common samples
- Bar code reader autofills sample name to reduce data entry time
- Storage capacity for more than 50,000 measurement results
- Supports up to 30 calibration curves
- USB connectivity in front and back for connecting to printer, keyboard, mouse, memory stick
- Supports USB as well as network printers
- Large, easy-to-remove side panels for easy serviceability
- Advanced error reporting and diagnostics
- Optional autosampler: 8-cup standard (43 mm) cup or 10-cup Accucells

17 35.45
Clora
Chlorine Analyzer

R Series

TRUSTED PRECISION

Monochromatic Wavelength Dispersive X-ray Fluorescence (MWDXRF®) utilizes state-of-the-art focusing and monochromating optics to increase excitation intensity and dramatically improve signal-to-background over high-power traditional WDXRF 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. MWDXRF is a direct measurement technique and does not require consumable gasses or sample conversion.



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
1	0.17	0.29	5	0.4	0.8	0.6	1.0
5	0.31	0.53	10	0.8	1.4	1.0	1.5
10	0.50	0.90	50	1.2	2.4	1.6	3.2

ELIMINATE PARTICLE SETTLING WITH ACCU-FLOW

ACCU-FLOW

Accu-flow technology helps minimize the effect of particulate settling, which is common when testing for chlorides in crude oil using XRF in the laboratory. Over a typical measurement cycle, the heavier particles can settle to the bottom of the sample cup and cause higher-than-normal results. Accu-flow pushes the sample through the system, keeping the sample uniform and delivering a result that better reflects crude streams in the refinery.

PRODUCT SPECIFICATIONS

Model	Clora
Test Method	ASTM D7536 and D4929
Dimensions	42 cm (h) x 40 cm (w) x 54 cm (d) 16.5 in (h) x 15.8 in (w) x 21 in (d)
Power	100-120 VAC, 47-63 HZ at 5.0 Amps/ 200-240 VAC, 47-63 HZ at 2.5 Amps
Minimum Sample Cup Volume	Traditional – 5 mL, Accucell – 1 mL
Ambient Temperature Requirements	5-40°C (40-104°F)
Dynamic Range	Standard: 0.13 to 4 wt%
Measurement	10-999 s
Optical Path	Vacuum
Excitation Source	75 W air-cooled

All qualification herein are subject to user guide specifications. If you have further questions, reach out to our team of experts at **info@xos.com.*

***Longer cycle time increases counts and lower LOD, but sample conditions over time must be considered. For further inquiries, please contact us at **info@xos.com**.*

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