

# Analyze Total Chlorine with Unparalleled Precision and Ease of Use

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

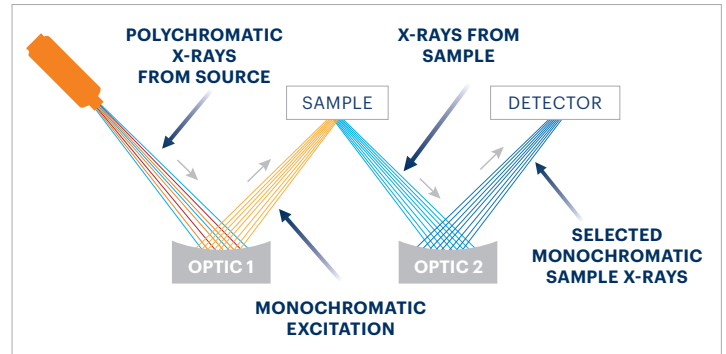
## FEATURES AND BENEFITS

- **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\*\*
- **Dynamic 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



## 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	r	R	Chlorine	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

## PRODUCT SPECIFICATIONS

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

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