Analyze Total Chlorine with Unmatched Analytical Performance

Easier to use than ever, Clora® 2XP analyzes total chlorine in liquid hydrocarbons such as aromatics, distillates, heavy fuels, and crude oils, as well as aqueous solutions, while automatically correcting for Sulfur interference.

The enhanced precision and performance technology makes it the ideal choice for testing related to catalyst poisoning in reformers or for sites with fluid catalytic crackers and hydrocrackers monitoring very low chlorine levels. This state-of-the-art technology complies with ASTM D7536 and D4929C.*

APPLICATIONS

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

FEATURES AND BENEFITS

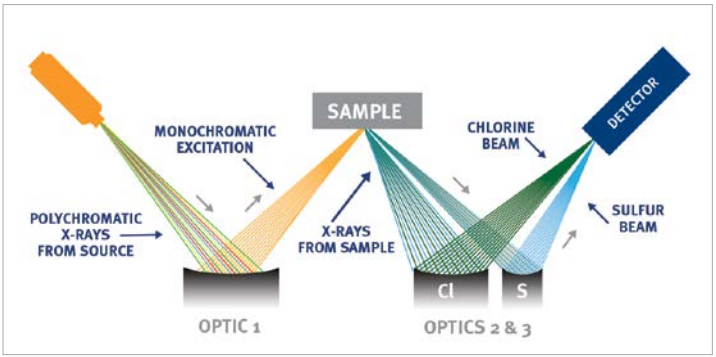
- LOD: 0.1 mg/kg (ppm) at 300s, 0.07 ppm at 600s in hydrocarbons**
- **Range:** 0.1 mg/kg (ppm) – 2 wt%
- Automatic sulfur correction saves time and improves accuracy and precision on high sulfur samples
- **Easy to use:**
  - Intuitive 10-inch touch screen
  - Just plug in and measure
  - **Measurement time:** 10-999 s
- **Low and high range available:**
  - **Low range:** 0.1 mg/kg (ppm) – 3000 mg/kg (ppm)
  - **High range:** 0.3 wt% – 2 wt%
- **Low maintenance:** no gasses, heating elements, columns, or quartz tubing
- Traditional 43 mm XRF sample cups
- Small footprint
- LIMS integration for data management and transfer
- Custom sample presets 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, and memory stick
- Supports USB and network printers
- Large, easy-to-remove side panels for easy serviceability
- Advanced error reporting and diagnostics
- Optional autosampler (8 cup)

17 35.45 Clora 2XP 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. Finally, a third optic provides information on Sulfur content in order to automatically correct for Sulfur interference.



TOTAL CHLORINE ANALYSIS			
	Gasoline (600 s)	Vacuum Gas Oil (300 s)	Mineral Oil Standard (300 s)
All values in ppm	0.29	1.41	0.30
	0.31	1.42	0.33
	0.30	1.44	0.31
	0.33	1.36	0.31
	0.36	1.43	0.30
	0.40	1.35	0.27
	0.36	1.44	0.23
	0.32	1.47	0.34
	0.32	1.39	0.32
	0.31	1.46	0.34
Average	0.327	1.417	0.305
Standard Deviation	0.032	0.040	0.035

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
0.2	0.10	0.19	5	0.4	0.7	0.5	1.0
0.5	0.11	0.22	10	0.6	1.2	0.7	1.4
1	0.14	0.27	50	1.2	2.0	1.5	2.5
5	0.25	0.50					

Model	Clora 2XP
Test Method	ASTM D7536 and ASTM D4929C
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	5 mL
Ambient Temperature Requirements	5-40°C (40-104°F)
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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