

# Effective Online Sulfur Analysis in Petroleum Process Streams

Sindie® Online is an industrial grade process sulfur analyzer with breakthrough detection capability to monitor ultra low sulfur in petroleum or aqueous process streams. This process analyzer presents the ultimate solution for refineries and pipeline terminals where measurement speed and reliability are essential. Powered by MWDXRFR®, Sindie Online uses ASTM D7039 technology and delivers real-time, continuous analysis of total sulfur from 0.5 ppmw up to 3000 ppmw. This process analyzer is ATEX and NEC certified for hazardous area locations.

## Applications

- Refinery: hydrotreating, hydrofiner, and blending processes
- Pipeline terminals: interface cuts, custody transfer acceptance, and tank contamination prevention

## Features

- Uses ASTM D7039 technology
- ATEX Zone 1 and NEC CII Div 2 Certified
- LOD: 0.5 ppmw in hydrocarbon matrices @ 300 s
- LOD: 1.5 ppmw in aqueous streams @ 300 s
- Dynamic range: 0.5 ppmw – 3000 ppmw
- For most application purposes, one calibration curve over full dynamic range
- Robust industrial design: wall mounted or stand alone

## Benefits

- Continuous, real-time analysis
- Rapid response to sample change
- Easy to use with intuitive touch screen interface
- Direct measurement in ppm wt
- Low Maintenance: no consumable liquids, gasses, combustion, or sample conversion
- Not sensitive to sample temperature changes

## Options

- Multi-stream analysis capability
- Extended Range (XR) available for measurements above 3000 ppmw up to weight percent levels
- Auto-validation capability

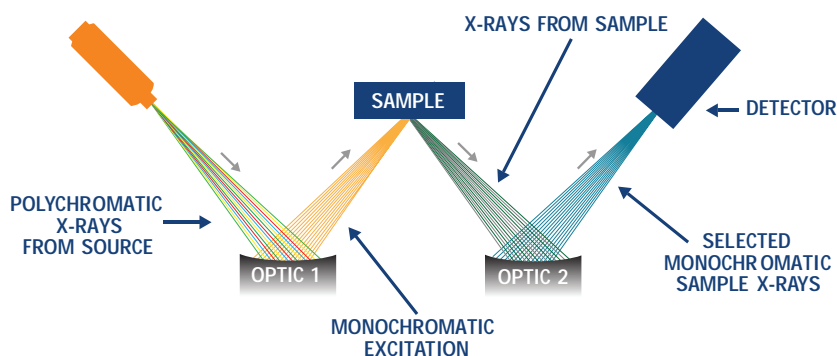
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**Sindie** ONLINE  
Sulfur Analyzer



ATEX and NEC Certified

## ADVANCED ANALYSIS WITH MWDXRF

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 ratio compared to traditional WDXRF instruments. This enables significantly improved detection limits, 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 sulfur 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 delivering robust and low maintenance analyzers with dramatically lower detection limits and faster response times.



## DWM 2XL - TWICE THE LIFE & BETTER PROTECTION

The new DWM 2XL lasts twice as long as previous models, saving you time and money. With improved film protection, it nearly eliminates risk of environmental contamination. DWM 2XL delivers continuous measurement for up to a year without maintenance. When the film requires replenishment, it is as simple as loosening four bolts and replacing with a refurbished DWM.



### Repeatability

Typical values in diesel fuel  
95% confidence  
300 s measurement time

S Concentration (ppmw)	r
2	0.6
8	1
15	1.5
100	5
500	9

## Product Specifications

<b>Analytical Platform</b>	MWDXRF
<b>Dynamic Range</b>	Hydrocarbon: 0.5 ppmw - 3000 ppmw / Aqueous: 1.5 ppmw - 5000 ppmw
<b>Response Time</b>	300 s for precise measurement, 15 s for rapid update
<b>Calibration</b>	3-5 point linear calibration curve
<b>Data Communication</b>	2x 4-20 mA analog outputs, multiple discrete alarm outputs
<b>Digital Communication</b>	Modbus TCP, Modbus RS-232, Modbus RS-485 (half or full duplex)
<b>Local HMI</b>	Touch screen display
<b>Remote Diagnostics</b>	Optional via TCP/IP or UDP
<b>Power</b>	110-240 VAC, 50-60 Hz, 790 W max.
<b>Instrument Air - Purge and Valve</b>	40-115 psig, (276-793 kPa) 4 scfm max; -40 F (-40 C) dewpoint, oil free, N2 optional
<b>Ambient Temperature</b>	32-95 F (0-35 C) Standard; -4 to 113 F (-20 to 45 C) Optional - Consult Factory
<b>Dimensions</b>	62 in (h) x 34 in (w) x 18 in (d) / 158 cm (h) x 86 cm (w) x 46 cm (d)
<b>Weight</b>	280 lb (127 kg)
<b>Certifications</b>	ATEX Zone 1 Ex db ia [ia Ga] pxb IIC T4 Gb; CE, NEC Class I Div 2 Groups B,C,D T4A



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