



## XRF Sulfur-in-Oil Analyzer



**Model: SCT-III**

The instrument is specially designed to determine sulfur content in the petroleum products. Adopts energy-dispersive principle, and with electrical, mechanical and microprocessor integration design, so it is rapid and accurate. It can meet the requirements of national standard of China GB/T 17040, SH/T0742 and GB/T11140 on repeatability and reproducibility, and it can also meet requirements of ASTM D4294. It provides a measure to determine sulfur content during petroleum or petrochemical production process.

## I. Purpose

- (1) It can be used to determine mass% of total sulfur in the crude petroleum, petroleum, heavy oil, diesel oil, gasoline, and naphtha.
- (2) It can be used to determine total sulfur content in the products of coal chemical industry, such as primary benzene.
- (3) It can be used to determine total sulfur or sulfide in other liquid or solid powder samples.

## II. Main features

- (1) With electrical, mechanical and microprocessor integration design, so it is compact and beautiful;
- (2) It can determine various products and in a wide measurement range. It is rapid for analysis and only need little standard sample.
- (3) Adopts fluorescence intensity ratio analysis methods, it can make correction to temperature and pressure automatically and it can also make correction to ratio of carbon and hydrogen (C/H).
- (4) Large LCD for display; Man-machine conversation system; Sound alarm for operation mistake;
- (5) It has self-diagnostic function, so it can determine its working state and electric parameters by making counting measurement and energy spectrum measurement using reference samples.
- (6) Equipped with a RS232 serial port, it can connect with any computer or web system.
- (7) It takes disposable sample cell with Mylar film, so it can avoid cross contamination. Sample cell is made by a multifunctional pressure shaping device, so it is rapid and convenient. There is a hole on the sample cell cover and you can record sample serial number, S% (m/m), and date on the sample cell cover.
- (8) The sample holder is installed on a slide rail, so it can move out and move in automatically. It can move out from inside of the instrument for sample location and anti-leakage parts replacement. It is convenient and it can avoid any contamination to detection system.
- (9) It can save large quantity of test data. You can browse test data and calibration curves at any time.

(10) It uses a thermal printer, so it is easy to replace printing paper.

(11) Tightly protection measures to avoid oil leakage. The sample cell is placed on the leakage protection device. The sample cell can enter into the detection system together with the leakage protection device only during sample analysis procedures. If the instrument is not at sample analysis state, the leakage protection device will move out, so this can avoid any contamination to the detection system.

(12) Its safe X-ray protection measures can keep people from injury of X-ray radiation.

(13) It can make measurement automatically for single sample. Repeat times: can set 2, 3, 5, 10, and 50 at random; it will show average value and standard deviation at end of measurement.

(14) Calibration curve numbers: it can save 9 calibration curves. 5 pieces of them are unary linear equation and 4 pieces of them are unary quadratic equation.

### III. Technical specifications

1	Measuring range	17ppm to 5%
2	Repeatability (r)	$<0.02894(X+0.1691)$
3	Reproducibility (R)	$<0.1215(X+0.5555)$
4	Detection limit	7ppm
5	Oil sample quantity	2.5 ml (it is equal to sample depth of 4.5 mm)
6	Measurement time	it can preset 60, 120, 240, 300, and 600 s at random
7	Working condition	Ambient temperature: 5~40℃ Relative humidity: $\leq 85\%$ (30 ℃)
8	Power supply	AC 220V $\pm$ 20V, 50 Hz; Rated power: 30 W
9	Dimension and weight	468mm $\times$ 368mm $\times$ 136mm; 13 kg

#### IV. Accessories list

No.	Name	Unit	Quantity	Remark
1	Main unit	Set	1	
2	Sample cell (Two parts)	Set	200	
3	Sample cell film (100 piece/box)	Box	2	
4	Leakage protection device (two parts)	Set	1	
5	Multifunctional pressure shaping device (two parts)	Set	1	
6	Printing paper (57 mm in width; $\Phi$ 30mm)	Roll	3	
7	Calibration sample (4 ml/piece, 11 piece/ set)	Set	2	
8	Power supply wire	Piece	1	
9	3 ml Pipette	Box	2	100 piece/box