
Product Information

One's experience of carbon tetrachloride extraction can be directly utilized

Oil Content Meter using a new solvent

OIL-20A

Introduction

The 1987 Montreal protocol was conferred and agreed on from the viewpoint of protecting the ozone layer. This agreement then led to a resolution aimed at total abolition of the production and use of carbon tetrachloride by 1996 at the 4th meeting of the Montreal protocol concluding nations.

In line with this trend, the use of carbon tetrachloride, which has long prevailed in the analytical sector, is now basically prohibited by the Japanese Industrial Standard (JIS) as well, thus making its procurement more and more difficult.

On the other hand, the demand for the oil content measurement has been extending from the environmental field to foodstuffs and further to electronic parts. Against such a backdrop, NIC has newly developed an oil content meter OIL-20A using a new solvent. This new model is to replace the existing OIL-20, a 'long-run' model but using carbon tetrachloride. The new OIL-20A is so designed that one can operate it in virtually a similar manner to its predecessor in terms of the extraction time and efficiency, the sensitivity and solvent costs.

Features

1. *Small-size, lightweight and sturdy*

- A halogen lamp featuring a long service life is used as the light source.

2. *Extraction and measurement independent of each other*

- Extraction can proceed in order even if water for inspection contains mud or suspended matter.
- No need for re-extraction even with a high-concentration (100 ppm or more) sample.



- An extremely low-concentration sample can be measured as well by changing the extraction ratio.

3. *Easy calibration*

- A standard plate for calibration is self-contained making it easy to check the calibration curve.

4. *Simple cleaning of a liquid sample chamber*

- Even if the container is filled with a high-concentration (approx. 100ppm) liquid sample, a return to zero can be made through cleaning just once or twice.

5. *Measurement of 1.0 ppm or less*

- The sensitivity and stability is so high that even a 0.1 ppm concentration is discernible by the 5-point average read-out method or chart recording.

Application

- Oil content measurement of industrial drainage.
- Oil content measurement of industrial water and river water.
- Oil content measurement of industrial wastes.
- Oil content measurement of drainage from a waste oil processing facility and performance monitoring of an oil content separator.
- Water quality monitoring of water drained after cleaning of a container tank at crude oil and petroleum bases.
- Monitoring of ballast water and bilge drainage at a tanker.
- Oil content measurement of drainage from car servicing factories and gasoline stations.
- Investigation of the oil content dispersion at time of an accident at a tanker, petroleum chemistry plant, etc.
- Oil deposition measurement on the metal surface.
- Measurement of the fat quantity in foodstuffs.
- Measurement of the oil quantity in industrial chemicals.
- Oil content measurement during water refilling into a boiler.
- Oil content measurement of liquid oxygen.

Measuring Principle

Oil in water or on a sample piece is extracted with tetrachloro-ethylen(C_2Cl_4), and the absorptivity (absorption by the C-H stretching vibration of $3.5\mu m$ wavelength) of the extracted solution is measured. The measured result is converted into the equivalent oil concentration in ppm and is displayed by digits. Light from the halogen lamp as a light source is made off and on by the chopper and is led to the sample liquid chamber. It then passes through the interference filter to become a monochromatic light of $3.5\mu m$ and enters the detector. The chopper is equipped with a photocouler for automatic correction of dark current, being synchronized with light and darkness. And through operation of the logarithmic converter, the oil concentration in the ppm order is displayed by digits.

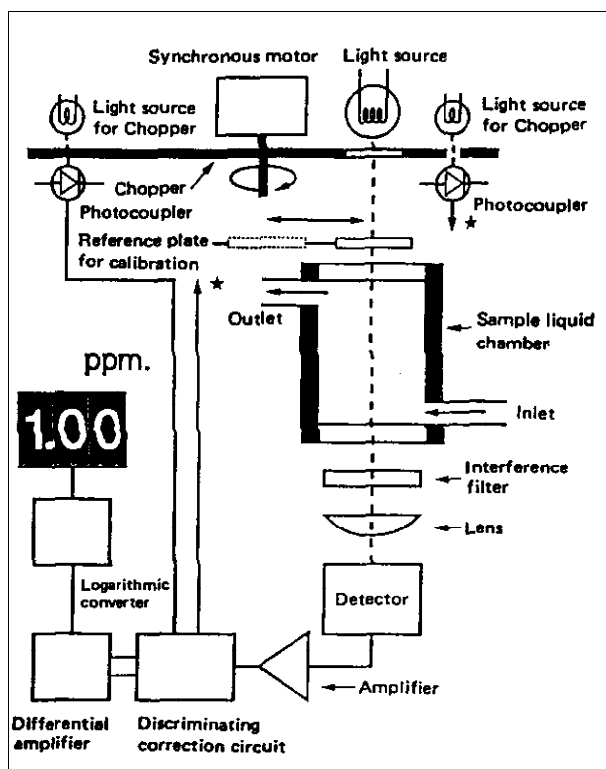
Specifications

Measuring method:	Extraction of tetra chloro-ethylen -- Non-dispersive infrared analysis method
Object for measurement:	Oil in water, powder or surface of a solid
Measurement range:	0~100 ppm
Measurement display:	ppm display by digits
Response speed:	Approx. 30 seconds
Extraction solvent:	C_2Cl_4 with in 10 ml
Recorder terminal:	Output 10 mV/ppm
Power requirement:	AC 100V \pm 10% , 50/60 Hz 60VA
Dimensions :	250 W x 130 D x 250 H mm
Weight:	Approx. 8 kg

Standard Accessories

Standard liquid (OCB)	1
Tetrachloro-ethylen 500 ml	1
Hole pipet 10ml,50ml	1 each
Syringe 10ml	2
Needle for syringe	2
Safety pipetter	1
Separating funnel 100ml	1
Erlenmeyer flask 30 ml	1
Power cord	1
Plug for recorder	1 set
Fuse	1
Sample solution pot (with a holder)	1
Vinyl cover	1
Instruction manual	1

Flow Chart



Information on New Solvent

Name; Tetrachloro-ethylen (For oil content measurement)

Maker; Wako pure chemical industries, Ltd.

Code No.203-14565 (500 ml)