

InfraCal TOG/TPH Analyzers for Easy, On-Site Measurement of Total Oil/Grease (TOG) or Petroleum Hydrocarbon (TPH) Levels in Water and Soil



- ◆ TOG/TPH determinations in under 10 - 15 minutes, including extraction
- ◆ Detect levels as low as 1 ppm or as high as 5000+ ppm (dependant on the model selected)
- ◆ Models usable with hexane, pentane, Vertrel MCA, perchloroethylene, Freon-113, AK-225 or S-316 extraction procedures
- ◆ Ideal for field or laboratory applications
- ◆ Direct reading, reproducible measurements
- ◆ Portable, lightweight, easy-to-use

InfraCal IR Platform Analyzer, Model HATR-T2

This model is recommended for measuring TOG or TPH concentration levels when using hexane, pentane or Vertrel MCA as the extracting solvent. Measurement data obtained with this analyzer will correlate to EPA Method 1664 as both procedures are based on evaporation techniques and measuring the residual oil and grease. The analyzer is equipped with a built-in cubic zirconia horizontal attenuated total reflection (HATR) sample stage. **Note: P/N 405-1009 Model HATR-T2 is a direct replacement for and supercedes P/N 405-0009 Model HATR-T, which is no longer available.**

InfraCal Cuvette Holder Analyzer, Model CVH

This model is recommended for measuring TOG or TPH levels using the traditional EPA methods 413.2 and 418.1 and Freon-113, hydrocarbon-free grade of perchloroethylene, AK-225 S-316 or other infrared transparent solvent as the extracting solvent. Since the extract is deposited into a 10 mm quartz cuvette cell with Teflon stopper, light end volatile components are retained for measurement.

Note: The Model CVH-1 which uses 1 mm quartz cuvettes is available for high concentration TOG and TPH measurements.

InfraCal IR Cylindrical Cell Holder Analyzer, Model CVH-50

This model which utilizes a 50 mm cylindrical quartz cell, permits hydrocarbon levels in water to be measured down to 1 ppm using Freon-113, perchloroethylene or S-316 for the extraction procedure.

InfraCal IR Card Reader Analyzer, Model CH

This model uses specially-designed reusable IR sample plates with sapphire windows, having a 100 microliter sample injection capacity. Suited for measuring higher levels of TOG or TPH in water or soil samples extracted with hexane, pentane or Vertrel MCA.

InfraCal TOG/TPH Analyzers provide an easy infrared analysis method for on-site measurement of total oil and grease (TOG) and total petroleum hydrocarbon (TPH) levels in water and soil samples. Depending on sensitivity requirements and the extracting solvent being used, five InfraCal models are available for TOG/TPH analysis - horizontal platform (HATR -T2), cuvette holder (CVH and CVH-1), cylindrical cell (CVH-50) and card reader (CH). All models are portable (operable from a 12 volt dc power supply), weigh less than 5 lbs, and read out directly in concentration level. Their compact, rugged design has no moving parts requiring alignment or adjustment. And, user friendly operation makes them easy to use with minimal training. InfraCal TOG/TPH Analyzers can read out infrared absorption values or they can be calibrated to display concentrations directly in any desired format such as ppm or milligram/kg. **Note: Conversion kits are available to convert any InfraCal model to another when analysis conditions change. Most conversions can be easily done in the field.**

A range of optional accessories expands the capabilities and versatility of the InfraCal TOG/TPH Analyzers. The battery pack that provides up to 16 hours of continuous operation enables the analyzer to be used for field testing. A small, portable printer further enhances the analyzer's capability for on-site field use providing sequenced and time stamped printouts of analytical results. In addition, the calibration table can be printed giving a complete record for a series of analyses. Or, choose the Windows-based software program to interface the analyzer with your PC and automatically download, label and save analysis data, remotely control measurement parameters, generate and store multiple calibration tables, and report data in various numerical and graphic formats. Transporting the InfraCal TOG/TPH Analyzer and various accessories is easy with our sturdy carrying case with pre-diced pluck foam inserts.

InfraCal TOG/TPH Analyzers for Easy, On-Site Measurement of Total Oil/Grease (TOG) or Petroleum Hydrocarbon (TPH) Levels in Water and Soil

No matter what your application -

- analyzing produced water on offshore oil rigs
 - monitoring effluents from refineries or waste water treatment and industrial plants
 - determining the efficiency of oil/water separation systems
 - soil studies at remediation sites or around underground storage tanks
 - measurement of residual oil on precleaned metal components
 - determining purity level of reclaimed solvents
 - or virtually any on-site testing of water and soil
- there is an InfraCal TOG/TPH Analyzer to do the job.**



InfraCal TOG/TPH Analyzer and Solvent Selection Guide

Since the Montreal Protocol banned the production of Freon-113, the search has been on to find a suitable replacement solvent for measuring total oil/grease (TOG) and petroleum hydrocarbon (TPH) levels in water and soil using infrared analysis. Wilks Enterprise has been studying potential candidates for Freon replacement and have found several that show promise. Their characteristics, along with those of Freon-113, are described in this chart. Please note, there are other infrared transmitting solvents that can be used for TOG/TPH analysis. We have chosen to limit our study to those solvents that are currently being used and/or have potential promise as a replacement for Freon-113.

Solvent for Extraction Process							
	Freon-113	Perchloroethylene	AK-225	S-316	Hexane	Pentane	Vertrel
Recommended Grade Purity	99+%	99+% Hydrocarbon Free	99+%	N/A	95+%	95+%	MCA
Extraction Efficiency	91%	87%	88%	98%	98%	98%	95%
Infrared Method	Transmission	Transmission	Transmission	Transmission	ATR/ Evaporation	ATR/ Evaporation	ATR/ Evaporation
Boiling Point (°C)	48	121	54	134	69	36	39
Recommended Drying Time (minutes)	N/A	N/A	N/A	N/A	3:00 - 5:00*	3:00 - 5:00*	1:30 - 2:30
% Useable Energy at C-H Band	89	81	28	80	0		
Includes/Loses Volatile Components	Includes						

Product Specifications

Dimensions: 6.5 x 6.5 x 5" (165 x 165 x 225 mm)

Weight: 4.5 lbs. (2.0 kg)

Display: 4 digit, 7-segment red LED, 5/8 in. character height

Power Requirements:

Voltage - 12 V dc, +2% max.

Power - 7.5 watts max., 5 watts typical

Input - Switchcraft 760 plug or equivalent, center positive

Suggested Power Sources:

Wall supply; AC/DC converter type (supplied as standard)

12 volt auto battery adapter connector

Portable 12 volt battery pack

Measurement Range:

1 to 5000+ ppm (Dependant on InfraCal Model)

Operating Temperature Range:

40°F (4°C) to 110°F (45°C)

User Selected Calibration:

Zero balance adjustment

Up to 20 point curve fitting calibration

Communications Port:

RS232 port, 9-pin D-Sub female, PC compatible, for upload to PC, datalogger or printer

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