

FIJI FAME IN JET INSTRUMENT

IP PM-DT "Determination of the fatty acid methyl esters content of aviation turbine fuel with Fourier Transform Infrared spectroscopy - Rapid screening method"

- Measures the presence of all FAME types in AVTUR
- Analysis time 20 minutes (assuming instrument at operating temperature)
- Laboratory and field instrument
- Suitable for untrained operators
- No hydrocarbon cleaning solvents required
- 50 ml sample volume
- Measuring range down to 10 mg/kg
- 110/240V operation & 12V option
- USB connection to PC/Laptop
- Footprint size 320 x 420 x 320 cm
- Test Method IP PM-DT (AVTUR)
- Windows based, XP/Vista/Windows 7 compliant software
- EI Round Robin Q3 2009
- Patent Pending



The analyser measures the FAME levels in AVTUR (10 to 400 mg/kg or higher with dilution) to check they are within acceptable industry limits;

Measurement Principle

Using a unique sample preparation module (patent pending) the sample is pumped at a regulated flow rate through a proprietary disposable cartridge that is interfaced with the instrument. The sample components are spectrally analysed by the FTIR and a result is displayed within typically 20 minutes. The results are displayed as a simple go /no go for field use (user definable limits); mg/kg results and a graphical/spectra are also displayed. The system is self cleaning so no solvents are required. After each test the cartridge is simply and easily replaced and the instrument is immediately ready for the next sample.

Chemometrics Programme Update

r and R original are from the official round robin. r and R Chemocal are the predicted precision from the same round robin but adding Chemometrics (Chemocal) processing

	r original	r Chemocal	R original	R Chemocal
10 ppm	8.3	1.8	9.5	3.0
20 ppm	8.4	2.4	9.6	4.0
30 ppm	8.5	2.9	9.7	4.7
50 ppm	8.6	3.6	8.9	5.8
100 ppm	9	4.8	10.0	7.8

Fuel Contamination problems prompt the need for testing

- In many cases Diesel and JET use shared multi-product pipelines which can lead to Fuel Contamination.
- FAME is surface active and sticks to the pipelines which causes Fuel Contamination.
- JET can release FAME from tankers and pipelines which creates cross contamination
- Whenever fuel is moved or stored there is the potential for fuel contamination
- Reliable operating procedures are necessary to prevent airports suffering from the disruption of fueling

Who should use the FAME Analyser?

- Airports, Pipelines, Jetties
- Refineries and Fuel Blending Locations
- Tank Storage Terminals
- Laboratories & Cargo Inspection

Specification

Measurement range:	10-400 mg/kg FAME in Aviation Turbine Fuels
Principle of measurement:	Flow Analysis by FTIR Spectroscopy
Operating Temperature Range:	5 - 40°C maximum (80% RH)
Test duration:	20 minutes
Sample size:	50ml
Voltage:	100 to 250V 50/60Hz
Power:	50W max
Computer interface:	2x USB (Computer running FIJI software is required for operation)
Size (HxWxD):	36 x 37 x 45 cm
Weight:	16kg