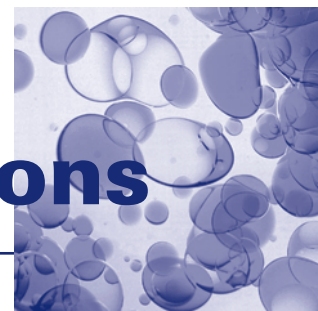


# Test Solutions



## OIL TEST KITS

- You have expensive machinery to maintain?
- Do you need to analyse oil on site?
- Do you need quick & reliable results?

Kittiwake oil test kits offer a range of parameters suitable for testing all lubricating oils. Easy to use, rugged and reliable oil monitoring at your fingertips. The following types of test are available:

### ECON Tests

Entry level tests for single parameters.

### DIGI Tests

Mid range kits for multiple parameters housed in a single engineers case. Each DIGI Test kit contains NEW digital meters for Water, and or TBN, plus a range of ECON Tests for other parameters.

**New!** Viscotube also available. A new addition to the range of viscosity measuring equipment now available from Kittiwake, also including the ECON viscosity test and the electronic fuel and lube oil viscometer.



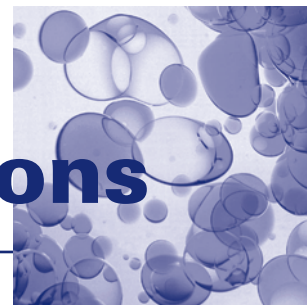
ECON TESTS	Water	TBN	Salt	Insols	Visc	TAN	Order No.
ECON Water test	ECON						FG-K13958-KW
ECON TBN test		ECON					FG-K13959-KW
ECON Salt test			ECON				FG-K1-005-KW
ECON Insols test				ECON			FG-K1-006-KW
ECON Viscosity test					ECON		FG-K3-020-KW
ECON TAN test						ECON	FG-K2-006-KW
ECON TAN Drop test						ECON	FG-K24743-KW
ECON Test Carry Case	Black Polypropylene case for multiple ECON Tests						AS-K13960-KW

**All DIGI Test kits include a digital test cell for water &/or TBN with a 5 YEAR battery life!**

DIGI TEST KITS	Water	TBN	Salt	Insols	Visc	TAN	Order No.
DIGI Water kit	DIGI						FG-K1-001-KW
DIGI Water & Viscosity	DIGI				ECON		
DIGI TBN Kit		DIGI					FG-K1-004-KW
DIGI Basic Kit	DIGI		ECON	ECON	ECON		FG-K1-003-KW
DIGI Industrial Kit	DIGI	DIGI		ECON	ECON		FG-K1-007-KW
DIGI Field Kit	DIGI	DIGI		ECON	ECON	ECON	FG-K1-008-KW
DIGI Combined Kit	DIGI	DIGI	ECON	ECON	ECON		FG-K1-010-KW
DIGI Clean Oil Test	DIGI				VISCOTUBE	ECON	
DIGI Viscotube					STAND ALONE		FG-K14828-KW

**Note:** DIGI Field Kit contains ECON TAN test FG-K2-006-KW

# Test Solutions



## ECON WATER TEST

Water can enter the oil system from many sources including condensation, leakage and malfunction of oil treatment systems.

Water will cause corrosion, cavitation and instability of additive packages and encourage the growth of microbes.



### FG-K13958-KW

**Range:** 0-1.2% lubes, hydraulic, gear, fuel oils

**Test Time:** 2 mins

**No. of Tests:** 50

**Accuracy:** Typically 0.1%

**Replacement**

**Reagents:** FG-K2-001-KW

## DIGI WATER TEST

**Graphic Display and 5-Year Battery! Built in memory for recording previous test result.**

Water can enter the oil system from many sources including condensation, leakage and malfunction of oil treatment systems. Water will cause corrosion, cavitation and instability of additive packages and encourage the growth of microbes.



### FG-K1-001-KW

**Range:** 0-1%, 0-10%, 0-20%  
0-10000ppm  
lubes, hydraulic, gear, fuel oils

**Test Time:** 2 mins

**No. of Tests:** 50

**Accuracy:** Typically  $\pm$  (1000ppm) or  $\pm$ 1% (on 0 -10% range)

**Replacement**

**Reagents:** FG-K2-001-KW

## ECON TBN TEST

The TBN of an oil is the measure of the alkaline reserve or the ability of the oil to neutralise acids from combustion.

Severe depletion of the TBN will lead to acidic corrosion and failure within the engine. This kit provides a quick and accurate indication of TBN depletion in engine crankcase lubricants.



### FG-K13959-KW

**Range:** 5-55 TBN diesel engine lube oils (use TAN for gas engines)

**Test Time:** 2 mins

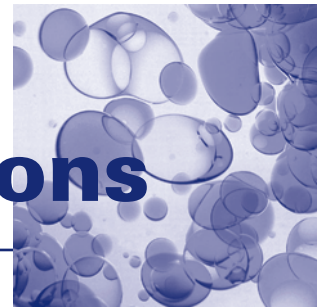
**No. of Tests:** 50

**Accuracy:** Typically  $\pm$  10% of new oil TBN

**Replacement**

**Reagents:** FG-K2-002-KW

# Test Solutions



## DIGI TBN TEST

**Graphic Display and 5-Year Battery! Built in memory for oils in use and previous test results.**

The TBN of oil is the measure of the alkaline reserve or the ability of the oil to neutralise acids from combustion.

Severe depletion of the TBN results in acid corrosion and fouling within the engine. A quick and accurate indication of TBN depletion in crankcase lubricants.



## FG-K1-004-KW

**Range:** 5-80 TBN Diesel engine lube oils, use TAN for Gas Engines

**Test Time:** 2 mins

**Memory:** previous test & 7 oils

**No of Tests:** 50

**Accuracy:** Typically  $\pm 10\%$  of new oil TBN

**Replacement Reagents:** FG-K2-002-KW

## ECON SALT WATER CONTAMINATION TEST

**Also used as replacement reagent pack.**

Salt will cause problems of rapid corrosion in any lubricating oil, fuel and hydraulic system. Its presence cannot be tolerated. This kit gives a rapid indication of salt contamination even if all the water has been evaporated.



## FG-K1-005-KW

**Range:** go / no go  
Lubricating oils, fuels, water

**Test Time:** 1 hour unattended

**No. of Tests:** 25

## ECON VISCOSITY TEST

This simple viscosity test provides a basic indication of Viscosity change.

Typically it will detect 5-10% distillate fuel dilution of an SAE 30 to 40 engine oil.



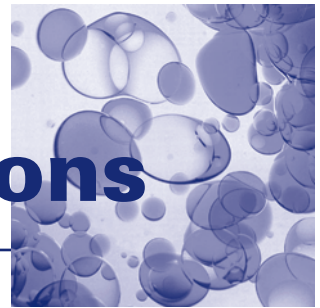
## FG-K3-020-KW

**Range:** go / no go  
Lubricating oils, viscous hydraulics

**Test Time:** 1 min

**No. of Tests:** unlimited

# Test Solutions



## VISCOTUBE

The Viscotube uses a falling ball technique to measure the viscosity of oil in centistokes (3 sizes of ball included).

Supplied complete with viscosity calculation software.

**Kit also includes DIGI thermometer.**



## FG-K14828-KW

**Range:** 0-600 cSt @ 40°C  
Lubricating oil, hydraulic oil, warm fuel oil

**Test Time:** 1 - 10 mins

**No. of Tests:** unlimited

## ECON TAN TEST

High operating temperatures in lube oil systems place severe stresses on the oil, resulting in oxidation, nitration, changes in viscosity and the build up of acidic waste products and deposits on metal surfaces. Total Acid Number (TAN) is a measure of both organic and inorganic acid contamination within the oil.



## FG-K2-006-KW

**Range:** 0-3 TAN  
Turbine, gear, hydraulic oils

**Test Time:** 2 mins

**No. of Tests:** 50

**Accuracy:** Typically  $\pm 0.3$  TAN

## ECON TAN DROP TEST

The ECON TAN Drop test kit contains all necessary reagents and equipment for a fully portable TAN test. Using a smaller sample size and a clear container. Result is shown by a colour change after adding titrant (drop wise from a dropper bottle) into the mixing vessel.



## FG-K24743-KW

**Range:** 0-6 TAN  
Turbine, gear, hydraulic oils

**Test Time:** 2 mins

**No. of Tests:** 25

**Accuracy:** Typically  $\pm 0.3$  TAN

## ECON INSOLUBLES IN LUBE OIL TEST

Insoluble build up in the engine oil from carbon, dust, spent additives, oxidation products and wear debris. High insoluble causes wear and fouling particularly around the piston rings.

This test provides an indication of insoluble levels in engine crank case lubricants.



## FG-K1-006-KW

**Range:** Qualitative Diesel engine lubes

**Test Time:** 1 hour unattended

**No. of Tests:** 100