

COMBINED TEST KIT (WIO, TBN TEST & VISCOSITY KIT)



INSTRUCTIONS FOR ERTEK WATER TEST
(order code 720101)

Objective: Determination of volume percentage of water in fuels and lubricants by pressure test cell method.

Accuracy: Conform the reproducibility limits of ISO 3733/ASTM D 95

Advantages:

- Monitoring the specification of bunkered oils.
- Monitoring efficient operation of separators. (Daily check strongly recommended)

Effect:

More useful energy
Complete combustion
Clean engine
Less corrosive and abrasive wear
Specific fuel consumption

Consumables necessary	Order code
Diluent (1000 ml)	720111
Water Test Solution	720112
Syringes, 1ml	720214

Syringes, 5ml

720212

Necessary Instruments: Reaction vessel with manometer and valve, water-free diluent, water test solution and syringes.

1. Shake the sample thoroughly to obtain a homogeneous mixture. Immediately add 5 ml of oil to the reaction vessel using a new and clean 5 ml syringe.



2. Add 5 ml water-free diluent using a new and clean 5 ml syringe.



3. Close the reaction vessel, swirl carefully and open the valve by turning the notched wheel to "O".

4. Shake the bottle with the Water Test Solution thoroughly to obtain a homogeneous mixture. (Note the ball inside the bottle is moving). Take 0.75 ml Water Test Solution with a new and clean 1 ml syringe and inject to the reaction vessel.



5. Remove the syringe and immediately close the valve by turning the notched wheel to 'S' (clockwise) assuring the pressure is zero.



6. Shake the reaction vessel with regular intervals by swirling it from the manometer. Read the manometer after 10-12 minutes.

7. Clean the reaction vessel

NOTE

If the water content of the sample is above 1,24% volume, open the cover, reduce the sample and repeat the test with a smaller amount of oil. Calculate the results as follows: Water % vol. = meter reading x 5/ sample volume taken in ml.

INSTRUCTIONS FOR ERTEK TBN TEST
(order code 720201)

Objective: Determination of TBN (alkalinity) in lubricants by pressure test cell method.

Accuracy: Conform the reproducibility limits of ASTM D-2896

Advantages:

- Monitoring additive degradation and depletion. (Monthly check highly recommended)
- Determination of (partial) oil change

- Check proper oil grade
- Monitor contamination of crankcase oil and cylinder oil (cross head engines)

Effect:

Less corrosive and abrasive wear

Clean engine

Specific fuel consumption

Consumables necessary	Order code
Diluent (1000 ml)	720101
TBN Test Solution (500 ml)	720211
Syringes, 10ml	720213
Syringes, 5ml	720212

Necessary Instruments: Reaction vessel with manometer and valve, Water Free Diluent, TBN Test Solution and syringes.



1. Open the reaction vessel by unscrewing the lid. Add 5 ml Diluent using a new and clean syringe.



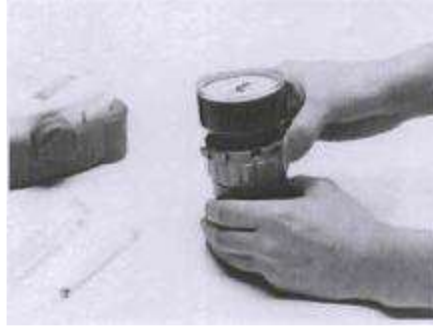
2. Add 10 ml oil sample to the reaction vessel using a new and clean syringe. Close the reaction vessel tightly. Open the valve in the lid of the reaction vessel by turning the notched lid directly under the manometer to "O".



3. Shake the bottle with TBN Solution and fill a new and clean syringe with 10 ml of TBN Solution. Place the syringe in the opening of the notched lid and empty the syringe.



Remove the syringe and immediately close the valve by turning the notched lid to 'S' (clockwise) making sure the pressure is zero when starting the reaction.



4. Please shake well for 15-20 minutes, in regular intervals. Read the pressure after 20 minutes and revert to the TBN graph.

5. Clean the reaction vessel.

INSTRUCTIONS FOR ERTEK VISCOSITY TEST KIT



Objective: Comparison of viscosity of used lubricating oil with fresh lubricating

Accuracy: N.A.

Advantages: Monitoring the viscosity of lubricating oil in use.
Check of unacceptably high viscosity due to contamination of
Check of unacceptably low viscosity due to fuel dilution

Effect: Maintaining proper lubrication
Avoiding bearing damage

PROCEDURE:

1. Fill 5 ml of representative sample into the reservoir for used oil by using a clean syringe.
2. Fill 5 ml of fresh oil into the reservoir for fresh oil by using a clean syringe.
3. Make sure both oils have the same temperature, i.e. ambient temperature.
4. Tilt the VISCOTOOL until it rests on the base opposite the reservoirs.
5. Keep in position till the fresh oil (= reference oil) has reached the mark and turn the VISCOTOOL in the horizontal position.

Interpretation:

Viscosity is too high if stopped before the mark of the fresh oil.

Viscosity is too low if stopped after the mark of fresh oil, due to contamination with a lighter product.

Note: Electro-cleaning solvents might attack the material.