DREW XP DUAL TEST KIT

DESCRIPTION

The DREW XP DUAL TEST KIT is used for onboard testing and analysis to determine water content and total base number of oil samples quickly and accurately. The self-contained onboard test kit is battery-operated and includes a dual-function test cell, test reagents, and an easy-to-use manual. Test results are available in minutes.

Water is the most common contaminant found in fuel and lube oil. From a trace of fresh water to significant seawater contamination that could quickly destroy an engine, water contamination is a major problem that reduces operating efficiency and can compromise vessel safety. Confirming water contamination through onboard testing allows operators to take immediate measures to prevent or remediate related problems, including oxidation of the oil, loss of base number, corrosive attack on metal surfaces, sludging of oil tanks, filters, and other system blockages.

Lube oil is formulated with special additives to provide a specified amount of alkaline reserve, which neutralizes acids formed during combustion and also inhibits oil oxidation during prolonged storage on board. Engine and equipment manufacturers typically specify acceptable lube oil grades, identified by BN for the different grades of oil to prevent premature acid corrosion of components.

WATER CONTAMINATION OF FUEL OIL

Water in marine fuels is typically the result of poor housekeeping. Tank condensation, incorrect centrifuge operation, leaking steam-heating coils, and rainwater ingress are common sources of water in fuel. Water contamination in fuel storage tanks creates the perfect environment for microbial growth, especially from sulfate-reducing bacteria (SRB), possibly leading to fuel spoilage and hazardous hydrogen sulfide generation. Immediate water testing of fuel at the time of bunkering that shows significant differences versus the bunker delivery note should in all cases trigger submittal of sample(s) to an accredited shore-based laboratory for confirmation and bunker claim processing, if warranted.

LUBE OIL CONDITION MONITORING

Routinely monitoring base number (BN) and water contamination of lubricants can provide several benefits, including:

Preventing equipment damage:

Water can be very damaging to lubricants and equipment, causing rust, corrosion, and accelerated wear. By monitoring water contamination levels in lubricants, you can identify potential problems before they cause significant damage to equipment.

Extending equipment life:

The BN of a lubricant is a measure of its ability to neutralize acidic contaminants that can build up in the oil. By monitoring and maintaining the correct BN level, you can help prevent acid buildup, which can lead to corrosion and premature wear of equipment components.

By monitoring water contamination levels in lubricants, you can also prevent premature wear and extend the life of lubricated equipment components. For example, water can cause bearings to fail, gears to wear prematurely, and other mechanical problems. By monitoring and addressing water contamination, you can help extend the life of equipment and reduce replacement costs.

Reducing maintenance costs:

By monitoring the BN of lubricants and identifying water contamination early, you can identify potential problems and address the issue before they cause significant damage to equipment. This can help reduce maintenance costs by avoiding costly repairs and downtime.

Improving equipment performance:

Lubricants with the correct BN level can help improve equipment performance by reducing friction, minimizing wear, and preventing corrosion. Lubricants with high levels of water contamination can negatively impact equipment performance, reducing efficiency and productivity. By monitoring the BN and water contamination levels and maintaining the correct BN level and addressing issues promptly, you can help ensure optimal equipment performance.

Optimizing oil change intervals:

Monitoring the BN of lubricants can help determine the appropriate oil change intervals for specific applications. When the BN starts to decrease, it indicates that the oil is becoming depleted and may need to be changed. By monitoring the BN, you can optimize oil change intervals and avoid unnecessary oil changes.

Contact your Drew Marine representative for more information

Continued on Page 2

Overall, routinely monitoring the BN and water contamination of lubricants is critical to maintaining equipment reliability, reducing maintenance costs, and extending equipment and oil remaining useful life.

Onboard testing using the DREW XP DUAL TEST KIT allows operators to:
Confirm specification of fuel and/or lube oil on delivery. Actual base number and water content can be compared immediately to delivery receipts, and samples should be sent to shore-based labs for further confirmation of any variances.

Monitor the condition of fuel and/or lube oil while in service.
In addition to confirming acceptable water and BN as oil is stored and used, this is also an important check on water and BN when using very low sulfur fuel oil (VLSFO) and ultra-low sulfur fuel oil (ULSFO).

Immediate measures to mitigate microbial effects of water contamination.
Treatment with biocides can be a cost-effective, preventive measure. (Drew Marine's AMERSTAT 25DM is a fuel treatment suitable for that purpose – PCN 6981402.) Separate testing can also confirm the presence of SRB as well as the effectiveness of biocide treatment. (Drew Marine's Sulfate Reducers Test Set – PCN 1707019 – is available for that purpose.)

TECHNICAL FEATURES

The DREW XP DUAL TEST KIT provides user-selectable target ranges for optimal precision in testing specific types of oil for base number and water determination.

Base Number: 1 to 180 BN ± 5% BN (virgin oil)

Water: 0 to 5 ± 0.01 % v/v (100 to 6,000 ppm)

OPERATING BENEFITS

- Accuracy to laboratory standards
- User-friendly, step-by-step testing procedures
- Simple prompts shown on test cell LCD screen guides operators easily through testing process
- Results provided in minutes

CLEANUP AND HANDLING

The use of harsh chemicals for cleaning test kit instruments and accessories is not advisable. Use only approved cleaning agents (e.g., Drew Marine's Test Kit Cleaner – PCN 1AB2738) to clean test kit components and wipe clean using a clean rag. Dispose of the used rag as used oil.

Refer also to the DREW XP DUAL TEST KIT Safety Data Sheet, available from your Drew Marine representative, for precautions regarding the reagents used in the test kit.

TEST PROCEDURES

For step-by-step operating procedures and precautions, refer to the Operating Manual for the DREW XP DUAL TEST KIT, available from your Drew Marine representative.

ORDERING INFORMATION

Description	PCN
DREW XP DUAL TEST KIT	1AB6240
Consumables	
DREW XP DUAL TEST H2O PACK	1AB6241
DREW XP DUAL TEST TBN PACK	1AB6242
DREW XP DUAL TEST O-RING SET	1AB6244
Related Products	
DREW XP SW CONTAMINATION TESTER	1AB2761
DREW XP VISCOSITY EVALUATOR KIT	1AB2764
DREW XP INSOLUBLES TESTER	1AB2759
DREW XP TEST KIT CLEANER, 2X500ML	1AB2738

Drew Marine

400 Captain Neville Dr.
Waterbury, CT 06705 USA
1-973-526-5700
Drew-Marine.com